NOTICE TO READER
When you finish reading this issue, place a one cent stamp on this notice, hand same to any postal employee, and it will be placed in the hands of our soldiers or sailors destined to proceed over seas. NO WRAPPING—NO ADDRESS
A. S Burleson, Postmaster-General, U. S. A.

AMERICAN ARTISAN and Hardware Record

VOL. 76. No. 2. CHICAGO, JULY 13, 1918. $2.00 Per Year.

HUNTER'S SIFTER

"The Genuine"

JUL 15 1918
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The Standard
For a Quarter of a Century
Proves its Superiority"

Right now is an excellent time to make a Window Display of HUNTER'S SIFTERS

Give a portion of your window over for a neat display of ***Genuine*** **HUNTER'S SIFTERS** and watch how it will stimulate your sales. The many uses that the ***Genuine*** **HUNTER'S SIFTER** has, may be brought to the passerby's attention by means of display cards. The fact that the ***Genuine*** **HUNTER'S SIFTER** besides being a high grade flour sifter, is equally as well a ***Mixer, Scoop, Measure, Dredge,*** and ***Rice Washer*** should not be overlooked. Make it plain to your prospective customers that it is also serviceable as a ***Pumpkin, Wine, Starch*** and ***Fruit Strainer.***

Let the good reputation and the superiority of the ***Genuine*** **HUNTER'S SIFTER** bring more business and satisfied customers back to your store.

Write us today and let us explain more about the ***Genuine*** **HUNTER'S SIFTER.** Let us show you wherein it excels all others. Only the ***Genuine*** has **HUNTER'S SIFTER** stamped on the front.

Write today for our latest catalog, listing many articles you can sell.

THE FRED J. MEYERS MANUFACTURING CO.

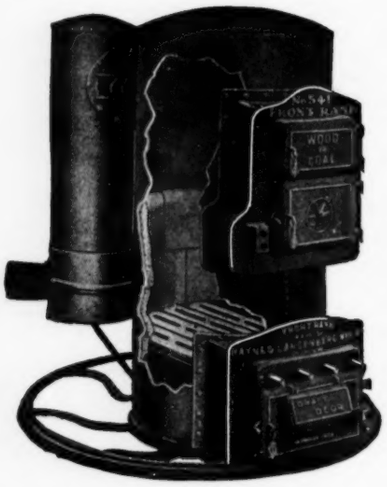
BECKETT STREET - - HAMILTON, OHIO

Published Weekly. Entered as Second-Class Matter June 25 1885 at the Post Office at Chicago Illinois under Act of March 3rd 1879

ALPHABETICAL INDEX AND CLASSIFIED LIST OF ADVERTISERS. 52 and 53.

The FRONT RANK
TRADE NAME REGISTERED

Steel Furnace



sells best, serves best and satisfies best, because it **Conserves Fuel** by reason of its

Longer Fire Travel

and larger radiating surface. The FRONT RANK gets the biggest percentage of heat value out of the fuel; uses any kind of fuel; is so simply and strongly built it stays in order; automatically ventilates while heating the rooms; automatically humidifies the warm air and so pleases customers that every one of them becomes a walking advertisement for the FRONT RANK Steel Furnace.

If you are not handling the FRONT RANK write us today for liberal terms

Good bye! We're going home FRONT RANK is too hot for us.

TRADE MARK
REG. U. S. PAT. OFF.

Haynes-Langenberg Mfg. Co.

4058 Forest Park Boulevard St. Louis, Mo.

ESTABLISHED 1880
Repr sentative of
The Hardware, Stove, Sheet Metal, and Warm Air Heating and Ventilating Interests
PUBLISHED EVERY SATURDAY

AMERICAN ARTISAN and Hardware Record

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DANIEL STERN
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Entered as Second-Class Matter June 25 1885 at the Post Office at Chicago Illinois under Act of March 3rd 1879

VOL. 76. No. 2. CHICAGO, JULY 13, 1918. $2.00 Per Year.

Your Store Front Is of Importance.

AN UGLY WOMAN may possess all the virtues. She may be jolly, full of wit and humor, and a marvel of intellectual attractiveness. In ninety-nine cases out of a hundred, however, she will fail to make a favorable impression upon the eligible men of her acquaintance. Her chances of wedded bliss will be about equal to the chances for survival of an armless and legless man clad in a bathing suit at the North Pole. We are so constituted, fortunately or unfortunately, as to be guided mostly by appearances. This peculiar bent in our psychology applies to practically everything in life—to hardware as well as to women.

The outward semblance of a store, therefore, has an important bearing upon the character and amount of business which it is able to transact. The store with an inviting appearance will pull the cream of business away from a clammy looking place and even an attractive window display will have its effectiveness offset by a generally sloppy store front.

Everybody admires and usually stops to take a good look at a well trimmed window and if its surroundings are bright and clean there will be nothing to detract from the desire it may have created to buy. On the other hand, if the passerby sees an unpainted rotted window sill and other wood work scratched or otherwise marred and observes that the whole front is antiquated and in a generally run-down condition with cracks that let in dust and perhaps an old board sidewalk in front that creaks, he will make up his mind that the merchant behind it is not very progressive.

Don't forget that a handsome front gives your store a reputation for quality goods. Outward appearance is a sure indication of character and the store front is as characteristic of the merchant as is the face of an individual and he should see that it gives the proper introduction.

Fix up your store front and let your competitor pay for its cost with the business you'll be taking away from him. Make it so enticing that when people think of hardware supplies they will think right away of your front, your store. If its appearance is attractive it will work for you and your business 365 days and nights in the year.

Of course, simply to tear out the old front and install a new one is not all that is necessary. A quantity of new wood and glass may cause some comment for a few days, but if you want to make your front continue to draw trade day after day, year in and year out, then do more than remodel. You must see that the improvement is along simple but modern lines. Beware of fantastic exaggerations and ludicrous attempts at novelty. Your front, instead of shouting like a side show barker, should coax. You want folks to say: "That looks as though there was a progressive man behind it," instead of: "Well, isn't that a sight?"

Spies and Lies.

THE COMMITTEE on Public Information sends out from Washington, D. C., some timely warnings to American citizens which are here reproduced in the belief that they should be given the widest possible publicity. We are told by the Committee that German agents are everywhere, eager to gather scraps of news about our men, our ships, our munitions. It is still possible to get such information through to Germany, where thousands of these fragments—often individually harmless—are patiently pieced together into a whole which spells death to American soldiers and danger to American homes. But while the enemy is most industrious in trying to collect information, and his systems elaborate, he is *not* superhuman. Indeed, he is often very stupid, and would fail to get what he wants were it not deliberately handed to him by the carelessness of loyal Americans. Hence, the Committee on Public Information gives the following instructions:

Do not discuss in public, or with strangers, any news of troop and transport movements, or bits of gossip as to our military preparations, which come into your possession.

Do not permit your friends in service to tell you—or write you—"inside" facts about where they are, what they are doing and seeing.

Do not become a tool of the Hun by passing on the malicious, disheartening rumors which he so eagerly sows. Remember he asks no better service than to have you spread his lies of disasters to our soldiers and sailors, gross scandal in the Red Cross, cruelties, neglect and wholesale executions in our camps, drunkenness and vice in the Expeditionary Force, and other tales certain to disturb American patriots and to bring anxiety and grief to American parents.

And do not wait until you catch someone putting a bomb under a factory. Report the man who spreads pessimistic stories, divulges—or seeks—confidential military information, crief for peace, or belittles our efforts to win the war.

Send the names of such persons, even if they are in uniform, to the Department of Justice, Washington. Give all the details you can, with names of witnesses if possible—show the Hun that we can beat him at his

own game of collecting scattered information and putting it to work. The fact that you made the report will not become public.

You are in contact with the enemy *today,* just as truly as if you faced him across No Man's Land. In your hands are two powerful weapons with which to meet him—discretion and vigilance. *Use them.*

Ethics of Publicity.

AN ELEMENTARY FACT of business is that success depends upon publicity. A small shopkeeper may attain a modest competence by courtesy and strict attention to his affairs without advertising in the newspapers, but he will never become a great merchant. Even in his case, advertising brings him what he makes—the advertising which each satisfied customer gives him by talking about him. In a large city he pays high rent for a good location, and the chief value he receives is his shop windows in which he displays and advertises his wares. Shop window display is valuable and very costly advertising, yet some who pay thousands of dollars a year for it profess to disbelieve in advertising. The shop window as an advertisement reaches the people who pass it, just as an advertisement brings buyers to the shop from a wide territory, and nothing else will do it.

Time and again attempts have been made to trade on the advertising done by others, but it is surprising how poorly such schemes work. An instance of this is furnished by two soap making concerns. Both have been in business for a century. One sells to the whole world while the other's trade is still local. Their leading lines are absolutely identical in quality and size. Every practical soap-maker knows how to make such soap, for the only secret is good raw materials and care. The big concern is one of the world's leading advertisers. Its small competitor trades successfully in a narrow way on past reputation and honest goods. Both have achieved success, but the measure of it is very different.

An over-sharp jobber in the soap trade thought he saw a chance to make some money out of this situation. He found out that, not only were the two soaps identical, but that the big concern often gets its slower competitor to make soap for its world-wide trade when its own capacity is overtaxed. This jobber began operations by getting statements or affidavits from employes relating this fact. Then he went to the small concern and placed an order for its soap at a price that gave him a profit on its resale at a cut price in a foreign country where the big concern was well established. He canvassed the trade of this foreign country and sold good opening orders after proving that his soap was identical in quality and finish with the advertised brand, and by using the affidavits he had got surreptitiously.

It looked plausible but it did not succeed. Advertising sold the other brand and those who had stocked up heavily with the other make that was actually "just as good" for once carried the soap for a long time before working it off. The smaller soap concern knew nothing about the scheme and lost nothing by it. In fact, it got some new business later on from a few dealers who had finally worked up a demand for the soap. But the attempt to trade in a larger way on the advertising of another concern was a dismal failure, though in this case there was nothing dishonest about it, which almost puts it in a class by itself.

War Time Loyalty.

THE DIFFERENCE between static and kinetic is the difference between equilibrium and action. The loyalty of the average citizen in times of peace is static. It is held at rest by the forces of law operating upon it. There is seldom any occasion for it to change from passive to active allegiance to the Government. Not much is required to pass the loyalty test when one's country is not at war. A simple compliance with the laws of the land is all that is needed.

But loyalty in war times is not a passive quality. At such a time one may be without loyalty and still not be disloyal. A person of this type will do nothing either to assist or to harm his country. He will not give himself to his country's service and he will not contribute financial support. Neither will he discourage others from doing this. He will do or say nothing treasonable, and neither will he do or say anything to put heart in the fighting forces or to uphold the Nation in its struggle. He will be simply a passive onlooker. And that is not being loyal.

Our country is fighting in the most desperate struggle of history. It is a struggle so vast and momentous as to demand the most complete support of every one of its citizens. Passive loyalty—the loyalty of peace times—is not sufficient. The brand of loyalty now demanded is the kind that impels one to offer himself and his all, if necessary, that his country may be victorious in the great conflict.

Most of cannot go into the fighting forces; most of us cannot enter into these industries directly connected with the war, but all of us can show our neighbors that we have the right brand of patriotism.

Our Government is urging upon us the necessity of saving as an essential to victory. We are told that there is not enough man power and not sufficient materials in the country to win a quick victory if we continue to use this man power and these materials as we did before the war. It is pointed out that there are now more than 2,000,000 men in the Army and Navy, and that by August 1 this number will be increased to 3,000,000, with a steady addition to that number from then on. These men not only cease to be producers, but they become consumers on a vast scale.

Thus it is that we are urged to buy only those things which we need in order that we shall not use up labor and waste materials and transportation, so vitally necessary to the Government in its war work and so much needed in the manufacture of things essential to the health and efficiency of our citizens.

By following the Government's request to produce to our maximum capacity and to consume as little as possible, we shall give practical expression to our loyalty—a militant loyalty, the brand which stamps us as being willing to do our part at home by sacrificing, by getting down to a war basis, by backing up our Government with all our strength. With our money savings we can then buy War Savings Stamps and per-

form a double service by giving the Government current funds with which to buy the labor and materials so much needed for war purposes which we have refrained from using. That is loyalty.

RANDOM NOTES AND SKETCHES.

By Sidney Arnold.

Many persons make the blunder of putting off until some more or less vague date the enjoyment of things which give happiness. They plan to take a holiday and say to themselves that they will have a good time when it comes. The consequence is that they miss the happiness which is at hand here and now. It is easier to be happy today than tomorrow—because tomorrow never comes.

* * *

My friend, George W. Diener, of the G. W. Diener Manufacturing Company, Chicago, Illinois, relates the following veracious tale:

The librarian at a certain museum was engaged in cataloging and arranging some ancient books that had just arrived from Egypt, when he noticed a perplexed look on the face of his assistant.

"What's the matter, Brown?" he asked. "Is there anything that you don't understand?"

"Yes," answered Brown. "Here is a small papyrus on which the characters are not decipherable. How shall I class it?"

"H'm," thoughtfully returned the librarian, examining the papyrus. "Suppose you call it doctor's prescription in the time of Pharaoh!"

* * *

A. G. Brauer of the A. G. Brauer Supply Company, St. Louis, Missouri, narrates the story of a young couple on board ship, accompanied by their little son, aged six. As is often the case, father and mother were very seasick, while little Henry was the chirpiest thing on the ship. In the morning while the parents were lying in their steamer-chairs, hoping that they would die, little Henry was playing about.

Now Henry had done something of which his mother did not approve, so she said to her husband:

"Clarence, please speak to Henry."

The husband managed to raise his head a few inches and look at his son and heir. Then, very feebly he muttered:

"How do you do, Henry?"

* * *

Tom Usher, of the Russell and Erwin Manufacturing Company, Chicago, Illinois, told me about his neighbor's little girl, Lucy, who had just returned from her first visit to Sunday school.

"Mother, will I go to heaven when I die?" she queried.

"Yes, darling, if you are good," responded her mother.

"Will my dog go, too?"

"No, dear, because dogs have no souls."

"Well, will our cow go?" asked Lucy.

"No," patiently explained her mother. "Cows have no souls."

"Oh," exclaimed Lucy, "then we'll have to go to hell for our milk!"

Allen J. Coleman, manufacturer of hardware specialties, Chicago, Illinois, radiates good humor. I was talking with him at the Hardware Club of Chicago not long ago and he told me about two women who had not met for years and who suddenly encountered each other in a street car.

"How do you do?" said one, effusively.

"Now, this is delightful," said the older of the two. "Just to think that you knew me after so many years. I can't have changed much—really I feel flattered."

"Oh," quickly replied the first speaker, "I recognized your bonnet."

And there was a silence which could be cut with a knife.

* * *

Leon D. Nish, secretary of the Illinois Retail Hardware Association, Elgin, Illinois, was in the bank the other day when a haughty-looking woman approached the window and shoved a check through the wicket without even glancing at the paying teller.

"Madam," said the teller, "you will have to get somebody to introduce you before I can cash this check for you."

For one moment she stared at him in a frostlike manner; then, in an exceedingly scornful voice, she said:

"Sir, I am here purely on business, and have no intention of making a social call. I do not care to know you!"

* * *

Tom Gallavin of E. C. Stearns and Company, Syracuse, New York, paused to watch a small colored youth who stood on one foot, inclined his wooly head far to one side, and pounded vigorously on his skull with the palm of his right hand.

"Hello kid!" grinned Gallavin, whose memory was carried back to his own boyhood days by the familiar action. "What are you doing?"

"Got watah in ma ear," announced the boy.

"Oh-ho," laughed Gallavin, "I know just how that is. I often have felt like that after being in swimming."

'Swimmin' nuffin'!" the youth exclaimed, disdainfully. "Ah been eatin' watahmilyun."

* * *

Most of us miss a great deal of happiness by putting off till an indefinite date the enjoyment and practice of gladness and good cheer. The time to be happy is now. The time to say heartening words is now. Be kind today. Develop the stuff that is in you, dig up the ore of good intentions and mint it into deeds.

Kindness and Truth.

True worth is in being, not seeming;
In doing each day that goes by,
Some little good—not in the dreaming
Of great things to do by and by,
For whatever men say in blindness,
And spite of the fancies of youth,
There's nothing so kingly as kindness,
And nothing so royal as truth.

We get back our mete as we measure;
We cannot do wrong and feel right;
Nor can we give pain and gain pleasure,
For justice avenges each slight.
The air for the wing of the sparrow,
The bush for the robin and wren,
But always the path that is narrow
And straight for the children of men.

UP TO THE MINUTE NEWS SIFTINGS

The Economy Stove Company, Cleveland, Ohio, has increased its capital stock from $20,000 to $50,000.

The Jungers Stove and Range Company, Grafton, Wisconsin, are building a new addition to their plant.

NEW LABOR RECRUITING POLICY IS EXPLAINED BY DEPARTMENT.

The United States Department of Labor authorizes the following:

"Only manufacturers engaged on war contracts and employing over 100 workers will be required to obtain their unskilled labor through the United States Employment Service of the Department of Labor by the ruling which goes into effect August 1st. So much uncertainty as to the scope of the new labor recruiting policy has been shown in inquiries received by the Department of Labor from employers not engaged in war work that the department to-day announced the exceptions under which private recruiting of labor may still be carried on.

"Nonwar industries are affected only indirectly. But they are one and all affected indirectly from the fact that the war industries of the Nation are now of paramount importance, demanding sacrifice and cooperation from all employers not engaged in war work in order that they may function with maximum efficiency.

"Nonwar industries, therefore, must not offer superior inducements, prevent the transfer of workers urgently needed for war production, or in any way attempt to compete with the Government for labor.

"The following five classes of labor need not at the present time be recruited through the United States Employment Service, although, of course, the machinery of the Employment Service is available to all employers needing these classes.

"1. Labor which is not directly or indirectly solicited.

"2. Labor for railroads (except in so far as the Director General of Railroads has already, or may in the future require, that recruiting shall be exclusively through the United States Employment Service).

"3. Farm labor—to be recruited in accordance with existing arrangement with the Department of Agriculture.

"4. Labor for nonwar work.

"5. Labor for establishments the maximum force of which (including the additional number recruited) does not exceed 100 employees."

Every individual must look this thrift question squarely in the face. If he does not meet the issue fully and promptly, he is not doing all that he can to win the war.

EXPLAINS "WORK OR FIGHT" ORDER.

For the purpose of answering numerous enquiries concerning the proper interpretation of the Provost Marshal General's "work or fight" ruling, the following authoritative statement is reproduced from *The Official Bulletin*, published under order of the President of the United States by Committee on Public Information:

Provost Marshal Gen. Crowder, in an interview, commenting on the "work or fight" regulation, which took effect July 1st, called attention to the occasional misconception of its scope. It applies only to men between the ages of 21 and 30, namely, the ages covered by the selective service law, and thus made liable to draft for military service. Gen. Crowder said: The widespread and instant popular approval of this regulation has been emphatic. But its scope should not be misunderstood, as occasionally it is found to be. It is primarily a military measure and was promulgated under the selective-service act, which places under liability for immediate military service all qualified men between the ages of 21 and 30. It does not affect men outside of those ages, and, therefore, does not affect industry at large.

The Army and Navy are taking the men who are best able, physically, to do the fighting. But that is only one part of the national task imposed by the war. The other part, the part that falls on the other men, is to set free these men who are to do the fighting. Every man who helps to set free a fighting man is helping to fight and win the war.

And it is every man's duty to give that share of help. That duty to work, and to work effectively, is the foundation of the new measure. "Work or fight." There is no other alternative.

Now, many of the men of draft age in deferred classes 2, 3, and 4, deferred, that is, on grounds of dependency, are not engaged in effective industry. The spectacle is not a satisfying one of a contingent of drafted men from Class 1 being marched down the street to camp while other men of their own age, watching them from the windows, remain behind to sell cigarettes or dispense soda-fountain drinks, solely because they have received deferment on grounds of dependency. If these men of the same age are to stay behind let them at least get into work more effective to help win the war. Their deferment takes them out of military service and yet serves no economic war purpose whatsoever. They are of military age, and, therefore, have the primary duty to do war work. If their dependency gives them deferment from immediate military war work, let them at least do something economically useful to maintain the Nation's welfare while at war. They should get into some useful and effective occupations or else forfeit their

deferment from military service. The alternative is a fair one.

This regulation, therefore, does not affect any person outside of draft age, except indeed that it will offer him more opportunities of employment than before. The place left vacant by the men within draft age will now be filled by men of older or younger ages and by women. The limited list of noneffective employments was in part selected with a view to this very fact that the work in those occupations could as well be performed by older or younger men or by women. These men who are of military age will go into military service or will go into occupations more necessary for the national welfare, where there is an unfilled demand for additional man power. They will be replaced, to the extent that they need replacing, by the others not liable to military service.

This is a natural and logical consequence of the vast withdrawals for the Army. Nearly three million men are said to have gone into camp or into the Navy. It is a simple and obvious fact that if the Army is to be a national one in the fullest sense, the places left vacant by the fighters stepping forward out of the ranks of civic industry must be filled by new workers, and the places vacated by them must be in turn filled by still others, and so on, until the ranks have been closed up and the whole man power has been utilized in replacements.

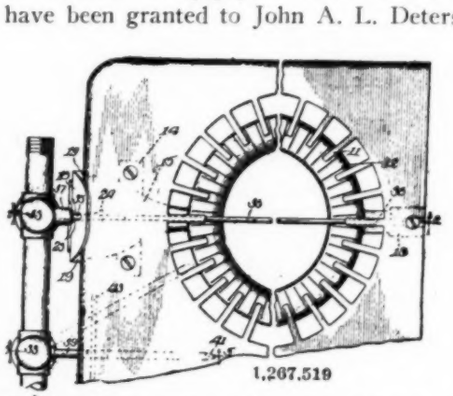
The need is insistent and the demand is universal for systematic, Nation-wide organization of the man power that is now either idle or noneffectively employed.

ALIEN AMERICAN IS ONE WHO FAILS TO HELP WIN THE WAR.

There are enemy aliens and there are native aliens. The American who does not do his part toward winning the war, who neither fights nor works nor lends for victory is as much an alien to America's purposes and America's cause as the rankest Prussian interned in this country. This is a war of peoples as well as of nations, and each individual has a place and a duty.

ACQUIRES PATENT FOR AUTOMATIC CUT-OUT FOR GAS BURNERS.

Under number 1,267,519, United States patent rights have been granted to John A. L. Deters, Chicago, Illinois, for an automatic cut out for gas burners described herewith:



1,267,519

The combination with a gas burner and a source of gas supply therefor including an upright pipe, of a valve head slidably mounted upon said pipe, a gas jet carried by said head, the upper end of said pipe being formed with a seat, a valve carried by the head and adapted to close said seat when the head is in lower position, and a thermostatic rod anchored at the rear end of said burner traversing the flame area of the burner and terminating in proximity to said head.

ISSUES A CATALOG OF WIRE FENDERS, SPARK AND STOVE GUARDS.

A new catalog has just been printed and is now being distributed by the Fred J. Meyers Manufacturing Company, Hamilton, Ohio. This book deals with wire nursery fenders, stove and fire guards. It contains many fine illustrations of these products and also price lists. The company states that all of its fenders are made of ¾-inch mesh crimped wire work, with seven upright rods, making them stronger and more secure than the ordinary larger mesh goods. They are lined when so desired at a small extra cost, with fine wire cloth for protection against sparks. The guards are said to be so made that they will fit closely on any coal or wood grate, and so hooked on that they can be easily taken off or put on. The company declares that many human lives would have been spared had the precaution been taken of using one of its fire guards. It also claims that these guards will prevent children from falling against the grate or throwing things into the fire, and will eliminate the danger of ladies' dresses being burned.

Wireguard for Fireplace, Made by Fred J. Meyers Manufacturing Company, Hamilton, Ohio.

Among the illustrations included in the catalog are several of adjustable folding fenders. These have the advantage of being adjustable so that they will fit any fireplace. They are adjusted by two small projections on each corner on top of the frame. The manufacturers claim that these fenders can be adjusted to fit any fireplace from 30 to 50 inches, and that they stand firmly when set. Those who desire further information about these fenders and guards should write to the Fred J. Meyers Manufacturing Company, Hamilton, Ohio, for catalog number 52.

Stove Guard, Made by Fred J. Meyers Manufacturing Company, Hamilton, Ohio.

EVERYBODY CAN HELP.

Every man, woman, and child in American can help win the war. Every man, woman, and child who buys a Liberty Bond or a War-Savings Stamp does something toward winning the war, enlists in one division of national service, supporting the Government, and backing up our fighting men in France and on the seas.

If your neighbor offers his life, surely you can loan your money. Save with the same eagerness that your neighbor fights, and buy War Savings Stamps with your savings.

THE WEEK'S HARDWARE RECORD

Of Interest to Manufacturer, Jobber and Retailer

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing western hardware and metal prices corrected weekly. You will find these on pages 46 to 51 inclusive.

The H. Robinson Hardware Company, Oakland, California, will build a one story reinforced concrete factory to cost about $30,000.

The Cardinal Tool Company, New York City, has been incorporated with a capital stock of $10,000 to manufacture tools, machinery, etc.

The Graef Wire and Manufacturing Company, Menasha, Wisconsin, has selected Appleton, Wisconsin, as the site of its new plant, which will cost about $85,000.

STORE WINDOW LIGHTING IS TO BE RESTRICTED BY NEW ORDER.

The co-operation of hardware retailers is desired in carrying out the new fuel conservation regulations with regard to unnecessary lighting which place a limit upon display illumination. The order of the United States Fuel Administration curtailing unnecessary lighting, which will go into effect very soon, is far-reaching. It forbids wasteful practices in outdoor lighting and especially illumination during the daylight hours. As now proposed, the order restricts display illumination, store window illumination, electric advertising, and other forms of lighting, which in ordinary times are considered legitimate merchandising propaganda, to four nights a week in the Eastern States, where coal is particularly short, and to two nights a week in other parts of the country.

Advertising companies and store owners have insisted that display lighting and display advertising were legitimate industries and involved large legitimate investments of capital. They have patriotically recognized, however, that conditions brought about by the war have made necessary immense personal sacrifices on the part of those whose business involves a large consumption of fuel. They are unfortunate enough to have their investments in a business which, while legitimate and even important in times of peace, can be more easily spared in times of war than many others.

The new "lightless night" order is to be followed by another order, in preparation, establishing rules for lighting and heating large public buildings, including office buildings, hotels, and apartment houses. These regulations will reduce the present practice very considerably. The public will be asked at the same time to reduce lighting in homes.

A survey of the lighting and heating practices of the country has shown that a change to a war standard of economy will save the country from a very disastrous fuel shortage the coming winter, and when all of the regulations which have been passed upon by the Fuel Administration as reasonable and necessary are in full effect and the public has been aroused to its share in the work of conserving fuel, the United States as a nation will have taken a long step toward "stripping for war."

GIVES COMPANY CREDIT FOR HAVING SAVED ENGLAND FROM DEFEAT.

A most illuminating story of achievement in this world war, foresight in preparing for America's participation and immediate readiness to supply all our Government's demands for explosives and many other needful articles was told to a few hundred duPont employes at their recent Sales Convention by Colonel E. G. Buckner, vice-president in charge of the military sales of the company.

Colonel Buckner presented a startling array of big figures and gave a vast amount of inside information about his company's share in the war for civilization. He showed that, though the work done by the company in supplying powder to the Allies has been credited with having saved the British Empire, it was even more important to our own country in this, that it laid the foundation on which rests a certain and adequate supply of explosives for our own boys "over there."

Efficiency and perfect organization, he said, made it possible to supply a total of 1,500,000,000 pounds of explosives for war demand. But the same efficiency and organization which did this made it possible also for the duPonts to answer America's calls and to keep the powder train moving to the American trenches just as it had moved on schedule time to supply the British, the French and all the others, who at the beginning of the war held out appealing hands to us.

The Colonel gave figures to show the profits gained by his company came more from efficient work than from high prices and in this connection he corrected many false impressions about these reported high prices which brought the profits.

One of the most interesting set of figures he gave is that showing how prices for explosives were scaled down month by month until now they are lower than before the war—in spite of the fact that the cost of labor and of everything else that enters into the making of munitions has increased enormously.

Not only has the duPont Company contributed ammunition to the winning of the war, but the company has also contributed men—4,168 of its employes are in the ranks.

Do not cry out against the terrors of thrift as long as the men in the trenches do not cry out against their hardships. Consider yourself lucky to be able to save and to buy War Savings Stamps.

CONVENTION OF NORTH DAKOTA RETAIL HARDWARE ASSOCIATION.

At a recent meeting of the Board of Directors of the North Dakota Retail Hardware Association, it was decided to hold the annual convention February 12, 13, and 14, 1919. The place has not yet been determined. C. N. Barnes of Grand Forks, North Dakota, is secretary.

MAKES RECORDS NEEDED FOR CONTROL OF ANY BUSINESS.

Practically every business man is compelled to undergo hardships arising from war-time conditions. Hardware dealers are certainly not exceptions. They are having considerable trouble in trying to get the right kind of help, in reducing expenses as much as possible, in obtaining good merchandise, and in many other ways. It is not for the purpose of showing that these conditions are unjust that we discuss them. Neither is it because the hardware dealers are complaining about them. Quite the contrary, they are proud of being able to make sacrifices for their country. They are willing to undergo hardships to help win the war. But this does not mean that they must look for obstacles which can be avoided. Nor must they be compelled to stand for difficulties which do not arise from the war and which may be eliminated. They should welcome anything which helps them avoid such obstacles.

For this reason it is to the interest of the hardware dealer to obtain full information regarding the National Cash Register, shown in the accompanying illustration, and manufactured by the National Cash Register Company, Dayton, Ohio. This may be procured by filling out the coupon appearing in the company's advertisement on another page in this week's issue of AMERICAN ARTISAN AND HARDWARE RECORD, and mailing it to Department 13804. The company very wisely says: "A man should not do the work a machine will do for him." The newest model National Cash Register makes the records which a merchant needs to control his business. It performs fifteen necessary tasks in three seconds. Without the register it would take a man more than half an hour to do those things. With the register even a new clerk can do them simply by pressing the keys. This cash register is declared to be a great help to merchants and clerks. Dealers should fill out the coupon immediately, and obtain full particulars.

National Cash Register, Made by The National Cash Register Company, Department 13,804, Dayton, Ohio.

THE RETAILER IS INDISPENSABLE.

Even the wholesaler admits that the retail merchant is a necessary part of the business world. However, some retailers are foolish enough to believe that the mere fact that their class is indispensable assures them of success. At least, their actions indicate that such is their belief. The only way to convince the buying public that you are an indispensable member of an indispensable class is by rendering efficient service. This is the only way to assure them of the fact and to win success.

OPPORTUNITIES FOR FOREIGN TRADE PRESENTED BY BUREAU OF FOREIGN AND DOMESTIC COMMERCE.

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

27,123. A Belgian firm in the Belgian Kongo desires to be placed in communication with American manufacturers and exporters of tools, agricultural machinery, bicycles, building materials, etc. Reference.

27140.—A man in Venezuela wishes to secure agencies for the sale of American merchandise. He mentions no particular line. Correspondence may be made in English.

27146.—A man in England would like to secure an agency for the sale of cutlery, hardware, enamel ware, galvanized iron, etc. Quotations may be made f. o. b. New York. Payment will be made by cash against documents. Reference.

27158.—A firm in the French West Indies desires to purchase and secure exclusive agencies for the sale of hardware of all kinds, and ship chandlery. Quotations should be made f. o. b. New York. Correspondence may be in English. References. A member of the firm will be in New York during July with whom interested firms may communicate.

27164.—An electrical and mechanical engineer in France wishes to secure an agency for the sale of all electrical machinery and appliances, machinery for household use, washing machines, etc. Cash will be paid. Correspondence may be in English. Reference.

COMING CONVENTIONS.

Sheet Metal Contractors' Association of Ohio, Chittenden Hotel, Columbus, Ohio, July 23, 24 and 25, 1918. W. J. Kaiser, Secretary, Columbus, Ohio.

Tennessee Retail Hardware Association, Nashville, August 6, 7 and 8, 1918. Walter Harlan, Secretary, 44 Boulevard Circle, Atlanta, Georgia.

American Washing Machine Manufacturers' Association, Hotel Sherman, Chicago, August 7 and 8, 1918. Raymond Marsh, Secretary, Otis Building, Chicago, Illinois.

Missouri Retail Hardware Association, St. Joseph, Missouri, February 4, 5 and 6, 1919. F. X. Becherer, Secretary, St. Louis, Missouri.

Wisconsin Retail Hardware Association, Milwaukee, February 5, 6, 7, 1919. P. J. Jacobs, Secretary, Stevens Point, Wisconsin.

Michigan Retail Hardware Association, Kalamazoo, February 11, 12, 13, 14, 1919. Arthur J. Scott, Secretary, Marine City, Michigan.

North Dakota Retail Hardware Association, place to be determined, February 12, 13, 14, 1919. C. N. Barnes, Secretary, Grand Forks, North Dakota.

Minnesota Retail Hardware Association, St. Paul, February 18, 19, 20, 21, 1919. H. O. Roberts, Secretary, Metropolitan Life Building, Minneapolis, Minnesota.

Economizing may possibly hurt, but what of the hurts of the men who fight and die for you?

By Herbert S. Houston, Member of the Chamber of Commerce of the United States of America on Economic Results of the War.

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CHAPTER IV.

(Continued from last issue.)

"Accordingly, we hold it to be of the utmost importance, as President Wilson has just emphasized, that such a league should not merely be contemplated as a more or less remote outcome of a future settlement, but should be put in the very forefront of the peace terms as their presupposition and guarantee.

"Whether it be or be not practicable, without any slackening of the energy with which the war must be waged, to make a beginning upon the League as regards the Allies and neutrals, even before the peace conference, we do not venture to decide, though we think this course has much to commend it. But we are sure of the pressing need there is here and now of giving the League of Nations the backing of an organized body of strong conviction; sure, also, that this task offers to the Christian consciousness an opportunity to make its own spirit felt in national policy such as has not occurred heretofore since the outbreak of this war."

This strong and convincing appeal bore, in addition to the signature of the Archbishop of Canterbury, the signatures of the Bishop of Winchester, the Bishop of Oxford, the Bishop of Southwark, the Bishop of Peterborough, the Rev. Dr. James Cooper, Moderator of the Established Church of Scotland; the Rev. Dr. W. B. Settle, the Rev. Dr. J. Scott Lidgett, the Rev. Dr. F. B. Meyer, the Rev. Dr. D. S. Cairns, the Rev. Dr. J. Estlin Carpenter, the Rev Dr. Alexander Connell, the Rev. Father Plater, Lord Henry Bentinck, Lord Parmoor, the Rt. Hon. Arthur Henderson, George Lansbury, Arthur Mansbridge, Professor A. S. Peake, and Principal T. F. Roberts.

The support of the League of Nations plan in America has been as influential and widespread as in England. President Nicholas Murray Butler of Columbia University in an address before the Chamber of Commerce in St. Louis, February 16, 1918, said:

"A league to establish and to enforce the rules of international law and conduct is now in existence, with the United States as one of its most potent members. This league should be a permanent addition to the world's organization for order and for peace. Upon its firm establishment three consequences will almost necessarily follow. First, there can be no separate alliances or ententes of a political or military character between nations included in the league, and this league must aim in time to include the whole civilized world. Second, there can be a speedy reduction of armaments, both to lighten the burdens of taxation and to turn the minds of the nations away from international war, to prevent which will be such a league's chief aim. Third, the most favored nation clause must be made applicable to all members of the league whenever treaties of commerce are concluded between any two or more of the nations that are included in it. This will either greatly lessen or wholly remove one of the strongest economic temptations to international war."

As indicating how generally the responsible opinion of the world has centered on this program, these words of President Wilson are significant because they restate his unchanging belief in "the partnership of nations which must henceforth guarantee the world's peace. That partnership must be a partnership of peoples, not a mere partnership of governments."

CHAPTER VI.

FREE SEAS AND CLOSED SEAS.

PRESIDENT WILSON in his notable statement of the war aims of the United States, in his address to Congress January 8, 1918, to which reference has been made, presented an exception to the free use of the seas, which reveals a universal agency for enforcing economic pressure. "Absolute freedom of navigation upon the sea, outside territorial water, alike in peace and in war" he declared to be one of our aims, with this pregnant qualification, "except as the seas may be closed in whole or in part by international action for the enforcement of international covenants."

This exception offers a wide range for the effective employment of economic pressure. The seas are the great highways of commerce. For centuries they were infested with pirates, corsairs, buccaneers, all manner of ocean bandits. Nations made common cause against them, but they were not swept from the seas until a century ago. And even then a form of legalized piracy, privateering, was sanctioned as a war measure and continued until a comparatively recent period. But all the time commerce was expanding and its claims for protection were being asserted. At the Paris Conference of 1856, Lord Clarendon agreed for Great Britain, then, as now, the greatest maritime power, in these four declarations:

(1) That privateering should be abolished.

(2) That a neutral flag covered enemy goods, except contraband.

(3) That neutral goods, except contraband, were not liable to capture unless under an enemy flag.

(4) That blockades to be binding must be made effective.

These declarations, although long unpopular with many influential men and interests in England, marked a great advance in the struggle for free commerce on a free ocean. They were international declarations, agreed upon at an international conference, and asserted the fundamental truth that the sea is an international highway, subject to international control.

But the United States did not adhere to the declarations as they did not concede the American contention that all private property should be exempt from capture by war ships, as well as by privateers, in maritime warfare. In the Hague Conference of 1899, Dr. Andrew D. White, head of the American delegation, endeavored to have this exemption of private property established, but it was decided that consideration of the question could not properly be given as the subject was not included in the official program announced when the conference was called. But when the second Hague Conference assembled in 1907 that omission had been fully corrected and at the first session of the Commission of the Conference, to which the question was referred, Joseph H. Choate, head of the American delegates, submitted this country's proposal, as follows:

"The private property of all the citizens of the signatory powers, with the exception of contraband of war, shall be exempt on the sea from capture or seizure by either the armed vessels or the military forces of the said powers. Nevertheless, this provision does not at all imply the inviolability of vessels which should try to enter a port blockaded by the naval forces of the said powers, nor the inviolability of the cargoes of the said vessels."

Twenty-one nations supported the proposal, eleven opposed it, one failed to vote and eleven were absent. But among the nations opposed were Great Britain, France, Russia and Japan. Among the nations joining the United States in an affirmative vote were Germany, Austria-Hungary, Italy, Denmark, Holland, Belgium, Norway and Sweden. But no final decision was reached on the question. Mr. Choate said a year later, in an address before the New York State Bar Association, "It was not possible, in the face of the great commercial nations that opposed it, nations likely at any time to be engaged in war, to press the question further."

Now, under the stress of war, President Wilson has revised this American proposal. It still stipulates absolute freedom of the seas but it carries the important amendment that the seas may be closed in whole or in part "by international action for the enforcement of international covenants." In fact that is precisely what has occurred during this world war. The seas have been "closed in whole" to the commerce of Germany and the Central Powers through the international action of the nations of the Entente; and this action has been taken in order to enforce "international covenants" because of treaties broken and public law spurned by Germany and her allies. And the result has been economic pressure of the most drastic character. The ocean-borne commerce of the Central Nations has been not merely reduced but destroyed. Their ships are interned in hostile ports of all the seven seas. Even the lawless submarines, while damaging the commerce of their foe, have not helped their own. And these are all acts of war in a time of war. Manifestly should the freedom of the seas be abridged through the joint action of a league of nations, to enforce "international covenants" against a nation that had broken a covenant, the resulting economic pressure would be of overwhelming severity. No nation, however powerful, could withstand it for a long period; especially when many kinds of economic pressure were being applied at the same time, through all the other international agencies that have been described.

CHAPTER VII.

NAPOLEON'S DECREES AND THE KAISER'S SUBMARINES.

When Napoleon was struggling for the mastery of Europe, in the early years of the nineteenth century, much as the Emperor of Germany has been struggling for it during the early years of this century, he saw that his most determined and stubborn foe was England. And then, as now, the ocean-borne commerce of England, in relation to the commerce of the world, was tremendously large. Manifestly the way to strike hard against the island kingdom was to strike her commerce. Napoleon struck through an embargo and William II through the submarine. In the Berlin Decree of 1806 Napoleon declared a drastic prohibition against all trade with Great Britain. This was immediately answered from London by retaliatory Orders in Council forbidding trade with France. Napoleon, not to be outdone, promulgated his famous Milan decree, making lawful prize of all vessels submitting to British search or taxation. These decrees, for both England and France, were definite acts of war, and were so intended. But to a nation across the ocean, the young republic of the United States, they were also, in effect, acts of war, although this country was a neutral.

In 1807 the United States adopted an embargo in an endeavor to protect its foreign trade through compelling England and France either to make less restrictive or abolish altogether their repressive commercial policies. This purpose was declared by the Government when it proclaimed the embargo, it being officially stated that it was believed that "by teaching foreign nations the value of America's foreign commerce and production, they will be inspired with a disposition to practice justice."

So one hundred and ten years ago this country undertook to apply economic pressure to accomplish an international purpose, that of justice. And looking back at the results, with the advantage of a perspective of over a century, it is entirely clear that we failed in our aim.

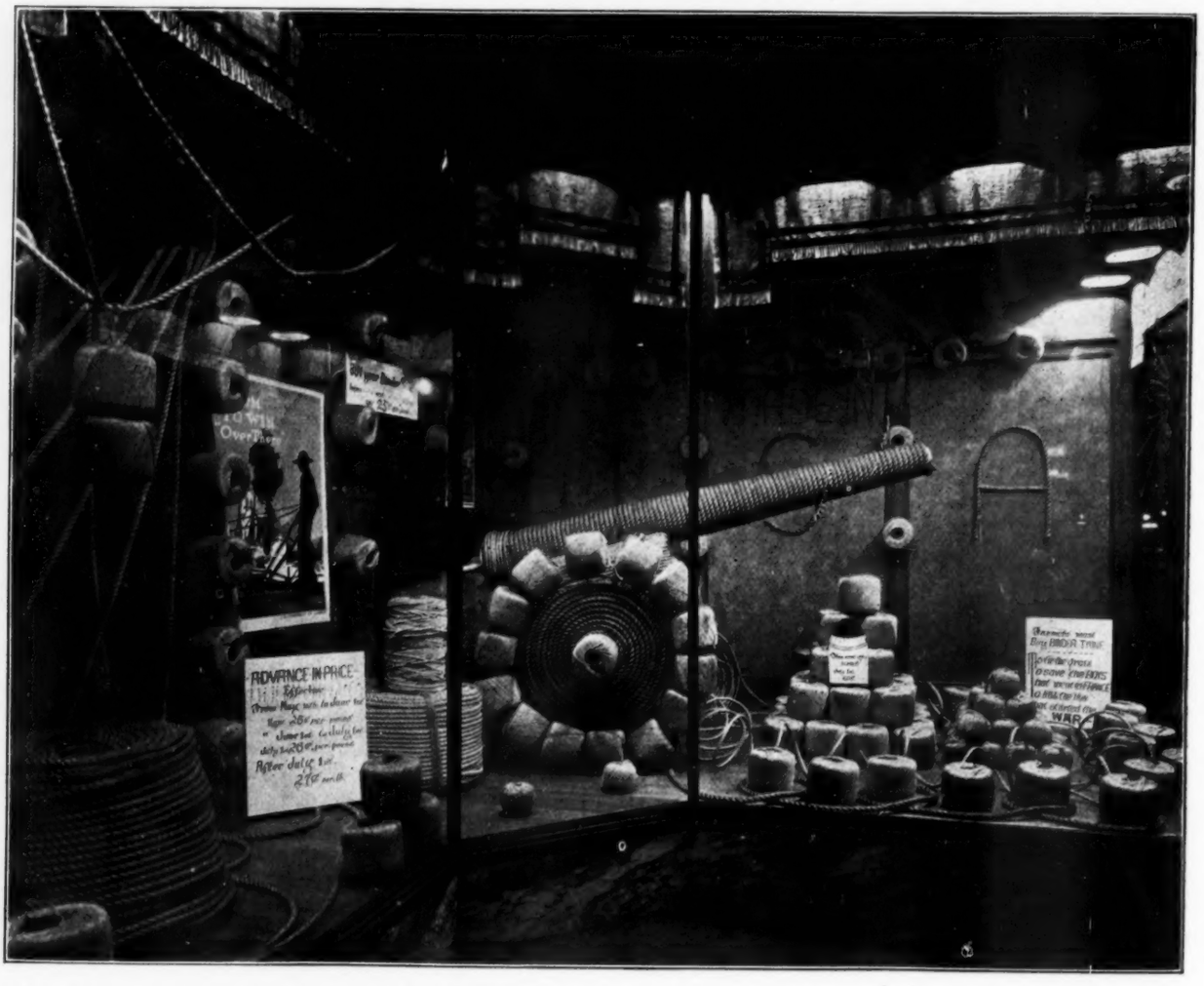
(To be continued.)

EXHIBITS IN AMERICAN ARTISAN WINDOW DISPLAY CONTEST

ANNOUNCES AN ADVANCE IN PRICE OF BINDER TWINE IN APPROPRIATE WINDOW DISPLAY.

It is neither a pleasant nor an easy task for dealers to announce an advance in the price of their merchandise without incurring the displeasure of their customers. The breaking of this news requires a certain amount of diplomacy and skill. That the arranger of the window display shown herewith possesses both of these qualities is evident from the fact that through this exhibit an advance in the price of binder twine was made public not only without producing any ill will on the part of the buyers, but in such a way as to increase the sales of the commodity. This exhibit was arranged by Floyd L. Lewis, for the Hartford Hardware Company, Incorporated, Hartford City, Indiana.

The plan used for informing the buyers of the advance of prices was a novel and appropriate one. The reason for the increase was shown in a picture which tells a story. The twine was arranged in the form of a cannon and a broken window was represented to show where the cannon ball had landed. In the center of the representation of the broken window was printed "24½ cents," the second shot being "25 cents," and so on. This indicated the advance in price. The cannon arrangement tended to show that the increase was due to war time conditions. The idea was such a novel one that it attracted many people to the store and caused them to forget the fact that the prices had been raised. The company informs us that this display increased the sales of twine to a considerable extent.



Window Display of Binder Twine, Arranged by Floyd L. Lewis, for the Hartford Hardware Company, Hartford City, Indiana.

There is another feature of this display for which we wish to commend the arranger. We refer to the use of the slogan, "Made in U. S. A." Our people are beginning to feel a sense of pride in the fact that American manufactured articles are now assuming a position of importance. Instead of demanding arti-

cles made in some foreign country, our citizens are calling for products made at home. A great spirit of nationalism is being developed in every line. Consequently, such a slogan as, "Made in U. S. A.," should meet with the favor anywhere and everywhere in this country, and the Hartford Hardware Company deserves credit for using it in its window display. This is, indeed, a very appropriate and well planned exhibit and deserves much favorable mention.

ANNOUNCES OPENING OF NEW WINDOW DISPLAY COMPETITION.

An improvement in the character of the exhibits entered in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition has been noted every year since these contests were inaugurated. The good which they have accomplished can be measured in definite results. Scores of hardware dealers and employes have learned valuable lessons. Salesmanship is stimulated by studying the display possibilities of a commodity. The reason is that, in order to do so, one must also study the merit of the commodity. No one can become a successful salesman who does not give thought to the things which he sells.

It is the experience of those who took part in former Window Display Competitions in these columns that they derived benefits which found expression in more sustained enthusiasm, a better conception of merchandising, and a keener sense of the fundamental principles of advertising. There is, therefore, ample justification for the new AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition which opens today and which is to continue until November 1, 1918.

Practically the same conditions and prizes will govern this contest as obtained in previous competitions. Cash prizes amounting to $100.00 will be presented by AMERICAN ARTISAN AND HARDWARE RECORD to the winners. The present competition is open to all hardware dealers and their employes. Each contestant may enter any number of window displays of any line of merchandise sold in hardware stores, such as general hardware, machinists' supplies, builders' hardware, automobile accessories, gardening tools, sporting goods, house furnishings, cutlery, tools, stoves and ranges, warm air heaters, sheet metal products, and similar commodities.

It has been demonstrated in the past that the rules regulating the competition are simple and fair to everyone concerned. Therefore, no attempt is made this year to change them or to elaborate them in any way. Prospective competitors are urged to read carefully the subjoined conditions and then to begin at once the necessary preparations for entering the contest. While the cash prizes are sufficiently large to constitute a motive in themselves, nevertheless the training which the hardware dealer or employe gets by making special efforts to win, is of still greater worth. The following are the rules governing the award of prizes and the conditions under which the window display must be entered:

Award of Prizes.

The prizes will be awarded as follows:

First prize, $50.00 in cash, for the best photograph and description received of window display of hardware or kindred lines;

Second prize, $25.00 in cash, for the photograph and description second in merit;

Third prize, $15.00 in cash, for the photograph and description third in order of excellence;

Fourth prize, $10.00 in cash, for the photograph and description fourth in degree of worthiness.

Conditions of Competition.

The conditions of the competition are as follows:

The photograph must be accompanied by descriptions of how the window displays were arranged and the materials used. The description is important and hence should be adequate. These photographs and descriptions may be sent by mail or express, charges prepaid, and must reach this office not later than November 1st, 1918. Address all photographs and descriptions to AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition, 620 South Michigan Avenue, Chicago, Illinois.

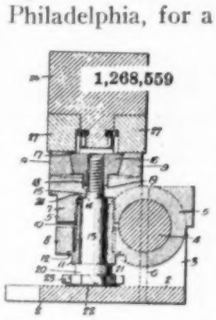
Each photograph and description must be signed by a fictitious name or device and the same name or device must be put in a sealed envelope containing the real name and address of the contestant. This sealed envelope is to be enclosed with the photograph. Contestants are permitted to enter as many photographs of displays as they please.

A Competition Committee of three will be appointed. One of them will be an expert window dresser and one an experienced hardware man. This Committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the Competition.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted.

SECURES PATENT FOR A VISE.

Under number 1,268,559, United States patent rights have been granted to Thomas J. Fegley and George O. Leopold, Philadelphia, Pennsylvania, assignors to North Brothers Manufacturing Company, Philadelphia, for a vise described in the following:



The combination of a base; a round bar secured to the base; a carrier mounted on the bar and having two jaws; a tubular bolt extending through one jaw and into the threaded opening in the other jaw; a head on the lower portion of the bolt; a body portion mounted on the carrier; a tapered nut adapted to a tapered opening in the body portion and having a projection adapted to a recess in the carrier so that the nut will be held from turning on the carrier; a bolt extending through the tubular bolt and having a portion adapted to the nut and having a shoulder, the two bolts having heads; and a handle having a wrench portion adapted to fit the heads and loosely arranged on said last mentioned screw so that the wrench can be shifted to either head in order to operate either screw.

DISCUSSES ECONOMICS OF RETAILING.

Haphazard methods of merchandizing are responsible for the majority of the failures which clog the courts of bankruptcy. The modern world bases its success upon science. The connection between the laboratory and the factory is a definite link in the chain of progress. The university and the store are no longer separated. Retailing is as capable of accurate analysis as ores or chemicals. The laws which govern physics are not more precisely worked out than the laws which regulate the functions of distribution. Indeed, everything which enters into the processes of human activity, social or commercial, can be determined as to its operation by study and research. The hardware dealer, therefore, who desires to improve his business and to put it upon a sound scientific basis would do well to pay close heed to the following lecture delivered by a trained college man at the recent annual convention of the National Retail Hardware Association:

Economics of Retailing.

An address by William Bethke, Director Department of Business Administration, La Salle Extension University, Chicago, Illinois, at the Annual Convention of the National Retail Hardware Association, Cedar Point, Ohio.

This occasion places an unsual responsibility upon me because I am somewhat of an outsider on your program and am fully aware that there is a pretty general feeling among business men that we college men are mutts—just plain, ordinary mutts. Speaking for college men generally and no had no time for theories yet theorized all the time about heartily reciprocated. Happily, however, that old-time gulf between the educator who could solve all the problems of the universe save his own and the practical business man who had no time for theories; yet theorized all the time about things of which he had no fundamental knowledge, has practically disappeared. In this great world conflict the college man and the business man are working shoulder to shoulder in the trenches, in the factory, and in the problems of merchandising, and in this contact we discover our common humanity and get down to more fundamental facts.

Terms Which We Can Understand.

In discussing such a broad problem as the "Economics of Retailing" one of the problems heretofore has been to talk in a language that each could understand. Perhaps I can illustrate what I mean by a little incident. Not long ago a very learned Harvard professor crossed over into this great Middle West. One morning after an exceedingly heavy rain he took a ride into the country. He soon came to where a farmer and his son were draining standing water from a cornfield right beside the road. The Professor in his attempt to be sociable talked to the two men in these words:

"I perceive, gentlemen, that you have had an unusually heavy precipitation."

The father turned with amazing disgust to his son and asked:

"What is he trying to say?"

The son's reply was:

"I don't know, but I think he wants to say we had a hell of a lot of rain."

Every trade, every science, and every profession develops a certain phraseology and vocabulary. The science of economics is no exception. In my attempt to interpret some of the problems of retailing on the basis of fundamental economic principles, I shall endeavor throughout to talk the everyday language of business, but if I should fail at any point to make my meaning clear I shall consider it a great favor if you will ask me what I mean and perhaps someone here can tell you in the same forceful language that this farmer's son did.

What Is "Economics of Retailing?"

As a first test on this problem I should like to have you tell me what my subject really means. I didn't choose it myself. It was assigned to me. It sounds like a professor's choice. If you were asked to talk upon this subject where could you begin? What would you say? I have little doubt if I should stop right here and let you think about this problem for the rest of my time that we should get down to some very fundamental facts about the economics of retailing. If my talk is going to mean anything we shall just have to sit down to some hard thinking. You came away from your business in order that you might have a real opportunity to consider your problems. We all recognize that one of the most necessary duties of a business man's work is to think and yet how seldom do we arrange for time in which to think! Sometimes we are too busy even to make money.

Yet today you are in a crucial struggle for commercial existence. Business men and merchants, like nations, are fighting to the last iota of strength to "hang on" and some are trusting to divine providence to pull them through. All business is topsy-turvy. What was good merchandising a year ago may be all wrong today, because the needs of the American people are different both physically and mentally. We hardly know what we are at.

I am not saying this in the spirit of the man who is always there to "cheer-up-the-worst-is-yet-to-come." The real merchant takes things as he finds them and makes the most of opportunities. It is doubly necessary for us, therefore, to study fundamental economic conditions in order that our plans and business policies may be intelligent and constructive.

The Fundamental Basis of Business.

The wide-awake merchant today is a student of economics. He recognizes that the fundamental basis of all business activity is the fact of human wants. Man has certain needs and desires which nature does not automatically supply in free, sufficient abundance, such as the air which we breath, and this fact gives rise to all our economic effort of production and distribution.

In satisfying these wants there is everywhere a threefold conflict which is indicated in the following brief outline of conflicts.

1. Between man and nature as—
   - Food and hunger.
   - Clothing and nakedness.
   - Shelter and the elements.
   - Warmth and cold.
2. Between man and man as—
   - For land.
   - For trade privileges and advantages.
   - For trade routes.
   - For money power.
   - For politico-economic power.
   - For world power and domination.
3. Between different interests of the same man as—
   - Luxuries against necessities.
   - Food against clothing.
   - One food against another food.
   - An automobile against a home.
   - Social service against money-making.

These wants and desires of man vary from time to time. There is greater intensity of effort in one direction than in another. The merchant must constantly study these changing conditions of life. This means a study of man, of society, of human nature, of psychology, of politics, and I may even say religion. A study of life pays. The consumer sets the limits to sale of merchandise. People cannot buy more than they earn. It is for that reason that you men through your local commercial associations and in other ways are giving thought and practical aid to community betterment, larger crops, intensified farming, new industries, etc. You are going to the source of your market. You are investing in the future growth of business in your towns and cities as surely as though you placed that money, time, and effort into real estate.

Is the Retailer a Parasite?

These suggestions bring me directly to the point as to how human wants are to be supplied. What is the economic process and how does the retailer fit into the scheme? I think this proposition is quite important. There is a certain amount of distrust of retailers which is not the exception but the typical point of view of the consumer. He is regarded with a lot of other middlemen as a tax on distribution.

Examples of Costly Distribution.

A few stock examples are cited again and again to show that distribution is highly wasteful. You may have heard of the car of onions which traveled 2,800 miles, changed hands twelve times and was finally sold for consumption within 100 miles from where grown. You may also have heard of the woman peeling potatoes who found a note in one of the potatoes from the farmer who raised the potatoes. The note read: "I got 69 cents a bushel for these potatoes—how much did you pay?" The woman paid at the rate of $4.00 per bushel. Can you blame her for feeling that she had paid too much for "distribution?" She replied to the farmer: "I paid $4.00 per bushel." He figured out that it cost 31 cents to ship the potatoes. That makes $1.00. Can you blame him for inquiring as to who got the other $3.00?

Direct Distribution An Economic Issue.

So the stories go. Those are repeated in conventions, lectures, and even in public print. The vaguely defined middlemen is blamed for high cost of living and today is branded with the much used phrase—a profiteer. Producers and consumers both join in the accusations that these middlemen with whom you are classed are parasites upon our economic system and the popular cry today is for cheaper and more direct distribution. That, for example, is the chief economic issue in the platform of the Non-Partisan League

which is causing politics to seethe in the Dakotas and Minnesota.

The high cost of distribution is not merely a whimsical fancy of the oppressed. It is a real fact. Census statistics show that the number of people engaged in distribution as compared with those engaged in production has been constantly increasing during the last 50 years. In 1870 about 12.6 per cent were engaged in distribution while 87.4 per cent were engaged in production. By 1890 18 per cent were engaged in distribution and now it is estimated to be nearer 30 per cent.

Naturally the costs of distribution must increase where the work of distribution has increased so tremendously. It does not follow, however, that we do not have a system adapted to our economic condition. Our system is not prescribed for us by the written law. It is a product of our business evolution. It has had to face the fierce competition of this period. If there were a system infinitely better adapted to our conditions it could long ago have been in profitable operation.

Methods of Retailing.

It is time we were testing different methods. We have such a variety of merchandising channels as the following:

Producer—wholesaler or jobber—retailer—consumer.
Producer—retailer—consumer.
Producer—consumer.
Producer—wholesaler—chain stores—consumer.
Producer—main stores—consumer.
Producer—mail order house—consumer.
Producer—wholesaler—co-operative stores—consumer.
Producer—co-operative stores—consumer.
Producer—branch houses—retailer—consumer.

The combinations are almost infinite. Not one of these has proved most successful and economical for every kind of merchandising proposition. In spite of all these systems and all this experimentation your retail stores still survive. You are here. Now, then, do you fit into the economic scheme of things?

Forms of Economic Activity.

I wonder how many of you have ever thought about fundamental economic activities with the idea of finding your place in the plan. I am going to let you think a little bit again. What are the basic economic activities? In business terms we generally speak of two primary classes of activities:

1. Production.
2. Distribution.

Along with these we recognize a lot of intermediary or facilitating activities which connect and make possible the primary activities. Now bear in mind that the consumer is at one end of the cycle and the producer at the other. The consumer furnishes the potential demand; the producer tries to supply that demand. The so-called middleman helps to work out the process of adjusting supply and demand. The demand of the times is for a shorter cycle of distribution.

What Is Meant By Production.

It is necessary to analyze these two propositions farther. What, for example, do you understand by production? You think at once of the farmer, the miner, the manufacturer. What do they do? How about yourself? Are you producers? How many would say so? On what justification? Obviously, we must define what we mean by production in the economic sense. The term must not be interpreted too narrowly. In economics we say production consists in adding "utilities" to things, and then we define "utility" as the capacity of a good for satisfying human wants.

Furthermore, we classify utilities into various groups, such as:

1. *Form* utility—Converting iron ore into bessemer steel or wheat into flour.
2. *Place* utility—Taking the coal from the mine to the home and factory or the surplus wheat from the farmer in Kansas to the miller in Liverpool.
3. *Time* utility—Storing the surplus eggs of summer through refrigeration to be used in winter when eggs are scarce.
4. *Quality* utility—Adding style and quality to goods so that they give better satisfaction.

Such an analysis of production need only be stated clearly to show us that every individual and every business institution that is rendering a valuable service to society is engaged in production work. You men when you add place utility to the farmers' seed by supplying it where it is needed and time utility by supplying it when it is needed are as much producers as the farmer who co-operates with the forces of nature to combine the chemical element of air and soil in the production of that seed. He did not make it. He simply helped to change its form utility.

The Economic Function of the Middleman.

The complexity of our economic system makes it possible to misjudge the middleman. Various classes of middlemen have developed because of our tendency toward specialization of functions. The economic functions have always been with us. They only stand out more prominently by reason of their specialization. They were formerly more largely assumed by the producer. The process of development is quite analogous to that in manufacturing. Factory organization is becoming more and more complex and more functionalized. A modern factory has a planning department, a purchasing department, an employment department—all of which functions have always existed but are now grouped under definite departments. Let me point a few such functional tendencies in distribution:

1. *The Risk Sharing Class.* Among these are all forms of insurance and a great deal of speculation. We have always had risk in business. There has always been the danger of fire, storm, theft, breakage, credit loss, swindling, loss of managerial ability through death, etc. Formerly these losses were largely assumed by each individual business man by himself. Under our present complex and highly organized business system we see how foolish such a system could be. Consequently we have developed this risk-sharing class to assume this responsibility. It means a new class of middlemen and the periodic payment of money for this protection must be added to costs, but it does not place additional burdens upon society. It is the most economical system of risk sharing that we know of.

The Function of the Speculator.

It is always open season for attacks upon the speculators. Gunning for the speculator is almost a popular national sport. I assure you that I am as anxious as anyone to eliminate recognized evils in the system. As an economist, I am unalterably opposed to the speculator who contributes no service, but simply, leach-like, fastens himself upon certain processes of distribution and raises the price simply for the purpose of reaping a profit. On the other hand, I do know that certain forms of speculation play an important risk-sharing function in business. The farmer can sell his wheat in the fall of the year long before it is required for actual use. The speculator stores it and pays as high a price as he must to get the wheat and yet come out safely on the price next spring when the wheat is needed for milling. The same holds true with eggs, butter, canned goods—every seasonable production where the supply is too great for the demand at a given time and must be carried over to another period.

Speculation Differs From Gambling.

Speculation differs from gambling as intelligence differs from ignorance. The true speculator is a keen student of marketing conditions in his line. If the condition favors a price advance he anticipates it; he buys. If a decline, he sells in anticipation. By these processes supply and demand come to a quicker balance. If speculation does not assume this risk someone else must. It may be the speculator. It may be the Government. As in the case of wheat, when the Government fixed the price of wheat to the producer, it engaged in a gigantic speculation. It assumed that for the period covered the world situation would remain such that the market price of wheat would not fall below the price fixed. If it should the Government would be the loser. We all know it was a safe bet for the Government (the speculator). If the price of wheat had been left for determination by private speculators, it would probably be considerably higher today than it is.

The price risk is over-present in business. You men speculate occasionally on your purchases. You wonder if prices are likely to go up or down and you buy accordingly. You have been advised to reduce stock to limit your risk and let someone else carry it. It is so all through business. Private speculation may be a costly and roundabout method of sharing the risk but it is the only general plan we know today.

2. *Financing the operations.* A second class of middlemen functions is that of financing business operations. Many of you can remember when the first bank started in your town. Today banking institutions, selling agents, money brokers, and various other agents are assuming the responsibility of financing business which was formerly assumed largely by producers themselves. These institutions supply money on your receivables, your customers' notes, warehouse receipts, trade acceptances, etc. Financing is made more convenient, more certain. But because it has been more specialized and more functionalized you men know more about banking and the services of banking in relation to business than you did twenty or fifty years ago. That is why the trade acceptance is such an important business issue today. Your banker is a partner in your business to the extent that he handles for you your financial operations.

3. *Transportation of the goods.* With increasing division of labor and business operations transportation or the process of adding place utility to goods is assuming greater and greater importance. One need only mention this today to remind one of the importance of transportation in business. It is a specialized middleman function. A good part of the economy of large-scale production, and division of labor is absorbed in increased transportation charges to the costs of your goods. With increased freight and drayage charges it will be increasingly necessary to figure this item of cost right.

You should also be alert constantly to changes in the transportation system that affect your business. Are you still knocking parcels post, or are you cashing in on it? Are you cashing in on better roads, enlarged sales territory, and the more transient buying of automobilists? I noticed in the

very excellent survey made by your organization that the automobile is looked upon with some distrust by some dealers. It seems to me such a hardware dealer is looking backward rather than forward. Make your town the Mecca to which automobiles will travel from miles and miles.

4. *Assembling and Reshipping.* This is a middleman service of greater importance than is often realized. The wholesaler, jobber, and branch houses often perform this service. They buy in quantity and assemble the goods into smaller quantities, grade and assort them for the trade, combine them with other goods in an order for the convenience of the retailer. In so far as this represents genuine economy in transportation, handling of the goods, financing of the operations, and securing the convenience of the customer these men are performing an economic service.

I think it is high time, however, that price discounts which favor big buyers should be eliminated from our commercial practice. They make for retail monopolies. They are as much a discrimination in favor of big business as railroad rebates were a few years ago and which we have attempted to eliminate from commercial life. If we are to have democracy and freedom of opportunity, discriminations in favor of the few must cease.

5. *Storing the Goods.* This function is concerned chiefly with adding place and time utility. Every dealer who stocks goods in anticipation of customers' needs is engaged in this kind of production. But the tendency is more and more in favor of shifting this responsibility to someone else. You are constantly urged to reduce lines, buy more often, increase your turnover—in other words make your store a salesroom rather than a storehouse. But goods have to be carried for months and sometimes years to have them ready in time of need. There is risk involved. There is expense for interest, taxes, insurance, rent for shelf-space, etc. This is a necessary middle men charge in our economic system.

6. *Selling the Goods.* This is your primary function, but you must not look upon selling too narrowly. You are not only in business for yourself. You are a link in the chain of distribution. You are the agent for the manufacturer and distributor. You give the customer personal service. You are expert buyer for your community and to the extent that you buy right you can sell right.

Your final aim must always be the net profit. Out of a large number of retailers solicited nearly half stated that their biggest problem was to reduce costs. That is where competition impinges. The period of blissful ignorance about store costs has gone. Your Association as well as all agencies looking forward to the development of a sound business structure emphasize the supreme importance of costs. How to reduce these is largely an administrative problem of which you know more than I do.

Selling methods change with the times. Buying powers increase or decrease either because of increased earnings of consumers or decreased buying power on account of higher prices. National advertising affects your sales policies. It tends to reduce the resistance to buy. It means more certain and more rapid turnover for you. For this advantage you may have to accept a narrower profit margin per unit sale.

The good points in all forms of selling to the consumer must be studied. Self help departments, special displays, mail sales, soliciting, advertising, mailing lists, systematic personal cultivation of customers, etc., must be made selling assets. If there is any value, and economy in these methods you men must use them if you are to retain your place in the system of distribution. Fundamental efficiencies are no respectors of persons. We must recognize them and fall in line.

War Is Changing Conditions.

I have given you a rather elaborate discussion of the economic nature of production and the true function of the middleman in our economic system. The war is changing many conditions and there is a ruthless elimination of gross inconsistencies and inefficiencies in our national system. I wish I could give you a few simple rules by which to interpret the future. Your work is related to the whole field of economics. A deep, understanding knowledge of economics will give you a better grasp of merchandising. You will appreciate better the meaning of inflation. You will understand the effect upon your business of increasing bank deposits, the ratio of loans to deposits, increases or decreases in the quantity of federal reserve notes or in the gold supply. You will be able to foresee better possible price changes and changes in supply and demand. You will observe the operation of the laws of increasing and diminishing returns as they apply to your business in all its activities. In that you will be better able to adjust your business to these larger economic forces that are constantly shaping events.

Four Basic Factors of Economics.

There is just one other factor of which I wish to speak briefly. In economics we say there are four basic factors in production:

1. Land.
2. Labor.
3. Capital.
4. Management.

It requires no explanation on my part to prove these factors. The thing you should be more interested in is the distribution of rewards to each of these factors. In economics we define the rewards to each factor as follows:

Land—rent.
Labor—wages.
Capital—interest.
Management—profits.

As merchants, many of you own your site and building, you work (popular opinion notwithstanding), you invest capital, you assume the responsibilities and risks of management. Do you include as costs of your business rent, salaries to yourself for what you can reasonably earn, interest on your capital, and then only figure to see what profits are left over as the reward of good management?

Factor of Management Is Important.

From an economic sense the factor of management is of tremendous importance. You must not only be merchandising experts in your chosen field; you must be big business men as well. You must know the science of business in all its branches—organization, management, finance, selling advertising, credits, collections, transportation and traffic, accounting, office management, and business economics. As I see it one of the big factors in the success of certain mail order and chain store systems consists in their ability to interest the biggest brains of the country in the development of their projects.

This, it seems to me, is more important than the economics which result from large scale buying and standardized methods of selling. And on the other hand, the greatest weakness in their plans is the reliance that they must place upon hired help with less powerful incentives to go ahead than you men have as proprietors of your business.

Advantages of Organization.

You have great opportunities for acquiring all these larger advantages through co-operation in your Association. You should help with your enthusiasm and your purse every great constructive work which your organization is capable of doing for all of you. Wouldn't it be worth a hundred dollars to each one of you if your Association could secure some more exact information about the hardware business, if it employed skilled merchandisers to give advice on advertising, on the training of help which is one of your big problems right now, on economic conditions as they affect your business, and in carrying on a publicity campaign that will remove once and forever this misinformation which is repeated over and over again?

RETAIL HARDWARE DOINGS.

Iowa.

M. Helwig has sold his interest in the hardware business of Broghamer and Helwig at Calmar to S. T. Kittlesby, the new name now being Broghamer and Kittlesby.

George W. Herlin has bought an interest in the C. F. Schmidt hardware business at Marshalltown.

W. W. Wheeler has sold his hardware store at Mitchellville to Ed Alleman.

Henry Polders and Fred Evans have bought the Schwartz Brothers hardware store at West Liberty.

Nick Greteman has sold his interest in the hardware and furniture business at St. Lucas to B. Kueonen, his partner.

Kansas.

W. S. Michener has purchased the interest of E. C. McGruder in the Chanute Hardware Company at Chanute and will continue the business in the established location 217 East Main Street.

W. T. Hines and Son have sold their hardware store at Easton to William Fevurly.

Kentucky.

The hardware store of Wilson and Jackson at Scottsville was destroyed by fire.

Minnesota.

H. J. Therland has bought a hardware business at Big Bend City.

Nebraska.

Childs and Johnson have sold their hardware and lumber business at Norfolk to M. Wallace.

Texas.

A recent fire destroyed the warehouse of the Masur Hardware Company at Lockhart.

Washington.

Fire caused the Haines and Spratt hardware store and the Werlich Hardware and Furniture Store in Cle Elum severe damage, both suffering a loss of about $14,000.

Wisconsin.

Richard Hennig and Art Blocha have purchased the hardware and furniture store of Henry Kreutzer at Athens.

L. W. Peterson has sold his hardware store to M. Fancher of Dorchester.

AUTOMOBILE ACCESSORIES SOLD BY HARDWARE DEALERS

PLANS "HARDWARE DEALERS' DAYS" AT NATIONAL EXPOSITION OF TRUCKS, TRACTORS, AND ACCESSORIES.

The Exposition Committee of the Automotive and Accessories Exposition, Incorporated, under whose direction the National Exposition of Trucks, Tractors, and Accessories will be held at the Municipal Pier of Chicago, Illinois, from September 14, to September 21, 1918, has set aside Monday and Tuesday, September 16 and 17, 1918, as "Hardware Dealers' Days." The beautiful Auditorium at the east end of the Pier will be used for the meetings of the hardware men on those two days.

Elaborate plans have been made for the Exposition which is expected to be the biggest undertaking of its kind. Before the end of June a much greater number of manufacturers had contracted for display space than the total number who exhibited last year. Also the floor space contracted for up to the end of June was much greater than all the floor space in the famous Coliseum building in Chicago. These facts show that the Exposition will be conducted on a large scale.

Hardware dealers who sell automobile accessories will find it well worth while to attend the Exposition, especially during "Hardware Dealers' days." Jobbers, wholesalers, and retailers will meet and will get the benefit of one another's business experiences. They will all learn the value of handling what is now one of the most important lines of the hardware business. Motive machinery is spreading on the farms of this country and local hardware dealers are developing that line in connection with building hardware. Furthermore, the most progressive hardware merchants in every part of the country have proved to their entire satisfaction that it pays to handle and sell not only automobile accessories, but truck and tractor accessories as well.

The advantages which the hardware dealers may derive from such an Exposition are too numerous to mention. However, there are several of the most important ones which we desire to discuss. The Municipal Pier of Chicago as the exhibition hall with all its tremendous exhibiting advantages over any other place in the world—the time, September (just losing the heat waves of summer), and the time when the jobber desires most of all to know what is new for his catalog, and when the dealer can best learn what articles will be most profitable, all combine to make the Exposition a fruitful event for all hardware men.

Another fact of importance is that Chicagoans drive many cars. They live in a city of great commercial activity, and are interested in the newest advent of the inventor's mind toward making more efficient their car, be it for business or otherwise. Dealers, jobbers, wholesalers, and retailers are continually pouring into Chicago in great streams to replenish their stocks. Therefore, the Automotive and Accessories Exposition offers them replenishing opportunities at a great central market. The accessory section is sixty-eight feet of unobstructed space in width, and seven hundred and twenty feet long, allowing for a great many booths, two ten feet aisles through the length, as well as cross aisles every five or six booths. Jobbers, dealers, and consumers of accessories for tractors and trucks as well as passenger cars will attend this Exposition. The benefits to be derived from attending are unusually great.

Hardware dealers who desire more information regarding the coming Exposition should address a request to the Automotive and Accessories Exposition, Incorporated, Hotel New Southern, 13th Street at Michigan Avenue, Chicago, Illinois. Dealers should bear in mind the date of the Exposition—September 14, to 21, 1918, inclusive—and the dates of "hardware dealers' days"—Monday and Tuesday, September 16, and 17. The purpose of the Exposition should also be borne in mind: "The exposition of essentials —War requirements—the Government's call for aid —transportation and food production which demands increased output."

THE GROWING DEMAND FOR GASOLENE NECESSITATES RIGID ECONOMY.

The United States Fuel Administration authorizes the following:

The constantly growing demand for gasolene to supply airplanes and motor transports now with the American overseas forces in France will necessitate continually increased shipments to the American Expeditionary Forces. Present stocks of gasolene, however, are now ample to supply the war demand and to allow the normal rational consumption in this country to continue.

The abnormal waste which characterizes the use of gasolene in motor-propelled vehicles, however, must be brought to an immediate halt. Legitimate use of gasolene for internal combustion engine fuel does not mean that gasolene may be handled wastefully. The present method of distribution of gasolene is extremely wasteful, the product being handled carelessly and without the slightest regard for conservation in thousands of garages and supply stations throughout the country. The Fuel Administration is urging everyone concerned in the production, distribution, and consumption of gasolene to eliminate every possible point of waste. Unless this is done, the present supply may in a short time become an actual shortage. If this condition develops the Fuel Administration will not hesitate to make effective enforced conservation methods, which, however, up to the present have not been necessary.

ADVERTISING CRITICISM AND COMMENT

Helpful Hints for the Advertisement Writer

There are some dealers who take advantage of the fact that this country is at war by calling every one of the articles which they sell, "war time specialties." It makes no difference to them that most of their merchandise has nothing whatever to do with the war. In their advertisements they give the impression that the war may be won merely by trading at their stores. Such advertising is disgusting. It spoils the effect of

WEIGH EVERYTHING CAREFULLY
To prevent having to add a little more flour - a little more sugar-a little more fat than is necessary, weigh everything carefully when baking
WAR ECONOMY
urges upon you the necessity of having a scale.
Family Scales $1.60 and up.
De Pree Hardware Co.
GOOD HARDWARE

the advertising done by merchants whose goods really do help in some way to enforce a vigorous prosecution of the war. No sensible person can believe that by buying a certain article which from its very nature has nothing to do with the war either directly or indirectly he will help his country. It is foolish for the dealer to advance such exaggerated claims.

However, while we are opposed to such foolish advertising and false patriotism, we are always glad to speak favorably of dealers who sell and advertise articles which are really of some use in enforcing economy or in some other way contributing to the success of the war. The accompanying advertisement is an effective bit of copy based on the need for war economy. It is the advertisement of the De Pree Hardware Company, and appeared in the *Holland Sentinel* of Holland, Michigan. It contains several commendable features. The head or beginning of the advertisement catches the attention of the prospective customer. "Weigh Everything Carefully," is, indeed, a fitting introduction to an advertisement about scales. The argument advanced by the company urging the necessity of a scale is a sound and practical one. By this time all housewives are aware of the fact that it is their patriotic duty to save food. Any article, therefore, which prevents "having to add a little more flour—a little more sugar—a little more fat than is necessary," is surely a help in enforcing economy and in winning the war. By giving the price of the scales the company has increased the effectiveness of the copy. The typographical arrangement is likewise a strong feature of this advertisement.

* * *

A good illustration, a well balanced plan, a standard, well known product, a clear and forceful statement of the advantages of the article on sale—each of these helps make an advertisement a trade-bringer. All of these are combined in the advertisement of Hoffman and Bryan, which ran in the *Daily Courier* of Findlay, Ohio.

The illustration of the warm air heater gives the reader a fair idea as to its construction, and produces a favorable impression upon him. A good illustration always adds force and life to an advertisement. It is often equivalent to a long description of the commodity.

Another thing which adds to the effectiveness of the advertisement is the fact that the dealers have put a standard, well known article in their copy. This is one of the strongest inducements to prospective customers to trade at their store. If they buy a heater they want to get one which they have heard of, one which they know will give them satisfactory service. This is especially true because of the fact that a house owner does not buy more than two or three warm air heaters in a life time. Consequently, when he does buy one, he cannot afford to take any chances on buying an unknown and untried make.

The short statements telling the advantages of the warm air heater on sale are important factors in creating a desire on the part of the reader to buy that

OUR AKRON AIR BLAST
FURNACE
Affords fresh pure air
Affords ample moisture.
First cost is low repair costs insignificant; lasts a lifetime.
Fuel consumption as low or lower than any other
Gives even temperatures in all parts of the house.
GIVES QUICKER HEAT: ADAPTABLE TO COLDEST OR MILDEST WEATHER
The registers are sightly and never in the way.
Simple and safe to operate
Adds to the rental or selling value of any house.
HOFFMAN & BRYAN
Both Phones—N Main St.
Serve and Save—Buy War Savings Stamps!

heater. Every one of them carries an appeal. The low fuel consumption is an especially strong feature in a warm air heater. In the last statement the word "adds" is misspelled. Mentioning the price of the heater would have added to the drawing power of the advertisement. On the whole, however, we believe that these dealers should derive favorable results from this copy.

HEATING AND VENTILATING

FUEL ADMINISTRATION ANNOUNCES SYSTEM OF COAL RATIONING TO HOUSEHOLDERS.

The probability that American householders may be put on coal rations as in England and France looms large upon the horizon of the fuel situation. An authoritative statement from Washington, D. C., declares that with every ounce of pressure possible being put upon the production of coal, requirements continue to mount. It is evident that there will be an insufficient supply for winter necessities unless the utmost conservation is practiced and a system of local distribution inaugurated which will prevent any consumer from obtaining more coal than is sufficient for his wants with the utmost care and economy being employed in its consumption.

There will not be enough household coal available this winter if last year's waste continues, or if unequal local distribution is not prevented.

The Fuel Administration has taken the necessary steps to this end. Householders may be put on coal rations, as in England and France. The coal allowed to each consumer will not be the amount used last year, but only so much as is scientifically found sufficient to heat his house to 68°, providing every conservation rule has been obeyed. That allowance for each will be sufficient for comfort, but the thoughtless and wasteful consumer who finds his allowance gone before the end of the winter will have only himself to thank if he has no fuel with which to heat his house.

Under this system everyone will get his fair proportion of coal. The hoarders will be eliminated. This system was originally worked out and applied in Philadelphia. It has proved an unqualified success and, with modifications suggested by the experiences in that city, the adoption and enforcement has been referred to the Federal Fuel Administration in all States.

This plan involves a department of coal allotments in connection with each local fuel administrator's office. Plans for this organization and for the necessary equipment have been completed by the administration in Washington in such detail that the local bureaus can inaugurate the system without delay.

The important features of the plan are:

First, a censorship of every order for coal received by any dealer, each order being compared with a figure obtained by very simple yet effective formulas showing the rating of the house where the coal is to be used.

Second, actual inspection of all doubtful cases and a checking up through inspectors of statements made by house-holders as to the coal on hand, the space to be heated, and the heating system employed.

Third, an effective refusal to furnish any householder more coal than a scientific analysis shows is necessary if the requisite care is taken in the heating of the house. Under this system surplus coal will be refused.

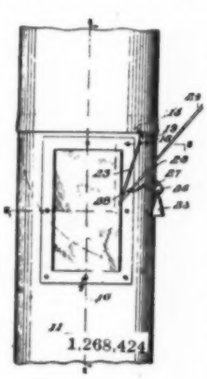
All consumers who have obtained a quantity of coal in excess of their allotments, or who by deceit of misrepresentation have violated any rules and regulations of the Fuel Administration, will be prosecuted.

This system will be drastic and will introduce conditions new to the country. It will be no more drastic, however, than conditions demand in the interest of all concerned. No one will be deprived of coal actually needed for heating; but no one will be allowed fuel for waste or extravagance, or doubly to insure a supply of fuel, while neighbors on account of this excess are unable to obtain enough.

With a shortage of coal confronting the country, it is only through such detailed regulations that a necessary supply can be insured to all. To delay until the emergency is upon us would be fatal. The Fuel Administration expects every one to recognize the necessity and the reason for this supervision and to co-operate fully with the local committees entrusted with carrying out the plan.

OBTAINS PATENT FOR AN AUTOMATIC DRAFT REGULATOR.

Floyd J. Beers and Clarence E. Stamp, Lowman, New York, have procured United States patent rights, under number 1,268,424, for an automatic draft regulator for heaters described herewith:



An automatic controller comprising in combination with a flue, an ovate damper arranged therein having a contracted end, a trunnion member journaled through the flue and attached adjacent the contracted end of the damper with a looped stop portion at the edge of the damper projecting at right angles to the plane of the damper adapted for engaging the inner surface of the flue when the damper is swung to its transverse position therein, a crank upon said trunnion member exterior of the flue having its inner side in the same plane as the damper and its outer side arranged in a different plane and a counterbalanced weight adjustably slidably mounted upon the said outer side of the crank.

RADIATOR FOR NUMBER 68 RICHMOND WARM AIR HEATER.

To AMERICAN ARTISAN AND HARDWARE RECORD:

Please let us know where we can obtain radiator for a Number 68 Richmond Warm Air Heater.

Ames, Iowa, July 10, 1918. SUBSCRIBER.

SUPPLIES CONVINCING ARGUMENTS IN FAVOR OF WARM AIR HEATER.

The central fact of salesmanship is that no commodity sells itself. It requires to be explained. Its merits and usefulness must be set forth in words that carry conviction. In order to accomplish this effect, the salesman must study the commodity, learn its qualities, acquaint himself with its uses, and so thoroughly enthuse himself in behalf of its sale that he is able to give convincing arguments to the prospective buyer. All this requires knowledge. In the case of warm air heaters, for example, the knowledge must be based upon certain technical facts which the salesman must be able to translate into everyday speech. One of the very helpful means to this end is the lecture delivered at the recent convention of the National Association of Sheet Metal Contractors of the United States by Professor John R. Allen, Dean of the College of Engineering and Architecture, University of Minnesota. It is here reproduced for the thoughtful consideration of all engaged in the heating and ventilating industry:

Warm Air Heater and Its Use.

By Professor John R. Allen, Dean College of Engineering and Architecture, University of Minnesota.

The warm air heater occupies a definite place in the heating world. In defining its place, we must first realize a few fundamental facts:

1. Fundamentally all heating plants have the same economy, whether they are steam, hot water, or hot air.

2. Each particular type of heating plant has a particular place, which depends upon the kind and size of building to be heated, the locality, and the load conditions.

3. All parts of a heating plant have a 100 per cent efficiency, except the heater itself, so that the heater is the only point at which fuel can be saved. All the heat of the fuel burned in the heater either goes into the house or up the chimney.

4. The amount of heat which the house loses is the amount of heat which the plant must supply. These heat losses may differ very widely in houses of the same size, depending on the form of house construction. The heat loss depends, first, upon the windows and their construction, and, secondly, upon the walls and their constructions. It does not depend upon the cubic contents of the house.

Place of Warm Air Heater.

I have met agents who are inclined to apologize for the warm air heater. They were inclined to justify the existence of the warm air heating plant because it was cheap. There is no excuse for such an attitude. The warm air heater has a legitimate place and in certain types of buildings it is the best form of heating that can be used. If I were building a medium sized house in which I expected to live myself, I should install a warm air heater. Why? It heats more quickly and responds to the drafts more promptly than any other form. It is simple to operate. It is more economical than most other forms of heat in the fall and spring because a small fire can be used. A few old newspapers and a little wood thrown into the warm air heater will take the chill from the house. The temperature and moisture can be more easily controlled than in any other form of heating.

Limitations of Warm Air Heater.

The warm air heater has its limitations. It must not be used where long horizontal flues are necessary, or where the horizontal flues cannot be given sufficient pitch. It must not be used where the partitions do not give proper space to carry up hot air pipe, or where too many turns must be used.

Reasons for Criticism.

We hear the public severely criticise the warm air heater, and justly so. This criticism is not the fault of the warm air heater in but very few cases. The responsibility of this adverse criticism must be laid at the door of the men who install these warm air heaters. As I go around on various warm air heater jobs and see how they are installed, I am surprised that so many of them work at all. The warm air heater is hindered in its development as much by the men that install them as from any other cause.

Faults of the Architect.

The first difficulty starts with the architect. He designs a house, makes the plans and specifications, and after they are done the heating contractor puts in a heating plant. Sometimes the heating contractor is not called in until after the house construction is started, and he is obliged to put in his plant as best he can. Often no place has been provided for the warm air heater, or if it has been provided, it is an impossible place. The 2x4 stud is now only 1⅝ by 3⅝, which does not leave sufficient space for installing vertical stacks of proper size or shape. Architects and builders must be educated to make proper provisions for warm air heating systems.

Faults of the Contractor.

The contractors themselves do many things that are just as bad and worse than the conditions forced upon them by the architects. The great difficulty lies in the fact that many of the men installing plants of this kind do not understand the fundamental principles that control the operation of a warm air heater.

There are certain fundamental facts that we must recognize:

1. The force producing circulation in a warm air heater is the difference in weight between the column of warm air in the heater, and the weight of a similar column of cold air in the cold air system. This force is a very small one and easily overcome.

2. The force that produces circulation is used up in two ways, in overcoming resistance and in producing air velocity. If you use up the force in overcoming resistance you cannot have it to produce velocity.

3. The air will divide between the different pipes in inverse ratio to their resistance. Pipes with large resistance will pass a small quantity of air and with small resistance a large quantity of air.

4. That resistance on the cold air side of the warm air heater has just the same effect as resistance of the warm air side of the warm air heater. The heating men have fads just the same as women have fashions. The warm air heater man's fad today is for recirculating pipes. About half the recirculating pipes that are being put in at the present time never have done any good and never will. Many of them are put in without rhyme or reason.

Emphasizes Need of Standards.

Now let us consider the warm air heater itself. At the present time this is very important, as we are all particularly interested in the saving of fuel. The economy of a warm air heater depends upon, first, the design; second, installation; and third, operation. The great trouble with the warm air heater business today is that it is without standard, and the reason for this is due to the fact that almost no actual accurate tests have been made upon warm air heaters. The manufacturer of warm air heaters don't know often times the simplest facts about their warm air heater, such as heating surface, ratio of grade to heating, velocity of air through different parts of the warm air heater.

Need for Accurate Information.

If the steam engineer had tried to run and develop his business with such an absolute lack of information as the warm air heater manufacturer, where would he be today? Gentlemen, if you are interested in the warm air heater it is for you to work up and study thoroughly the device which you are using and installing. There are warm air heaters on the market today that are given ratings that are higher than the theoretical possibilities.

Mentions Chief Difficulty.

The great difficulty in making exact, practical demonstration of what a warm air heater does is in the fact that no individual consumer or jobber can afford to do it. The amount of money involved in each installation is so small that the technical skill required to make the investigation would cost more than the plant. For this reason all of this work must be undertaken by the manufacturers of the warm air heater or by the national societies or still better by all in co-operation. This work can best be done by an organization which is free from commercial bias.

Co-operation in Testing and Research.

For a number of years I have been making a consistent effort in the American Society of Heating and Ventilating Engineers to broaden their point of view. When I first presented a paper to the society on warm air heaters very few were interested. Some went so far as to suggest that the warm air heater was not a high grade heating device and hardly deserved their consideration. Today every meeting of the society gives some time to the warm air heater. The warm air heater is getting a standing among engineers. Now is the time for the men interested in the warm air heater to co-operate and obtain recognition from the national engineering societies with the assistance of those societies as unbiased observers and associates. It will be possible to establish standard of design, installation and operation which will command the recognition of the public.

Factors of Economy in Warm Air Heater.

On the market at the present time there are a great many designs of warm air heaters, some good; some bad, and a good many in between. In designing a warm air heater for economy there are certain fundamental considerations; first the heating surface itself, the location of the heating surfaces. Direct heating surfaces are those which see the fire and are effective even if the drafts of the warm air heaters are entirely

closed. Indirect heating surfaces, sometimes called flue surfaces, are only effective when the gases are passing through them. Grate surfaces are those surfaces on which the coal is actually burned. Their design largely depends upon the character of the coal that is to be used.

Travel of the Air and Gases.

Fundamentally, for the best efficiency the hot gases and the cold air should travel in opposite directions, so that the coldest air will come in contact with the coldest gases and the hottest gases in contact with the hottest air. The velocities of air and gases through the warm air heater will be largely affected by the design of the warm air heater itself. In many cases very little consideration is given to these facts and there is much opportunity for experimental work along this line.

Conditions of Circulation.

There are two different conditions of circulation that must be considered in the design of warm air heaters, one in which the air is recirculated, in which case the difference in temperature between the hot and cold air side of the warm air heater is not more than 70 or 80 degrees. With only a small difference of temperature the velocity of circulation through the warm air heater is comparatively small. Assuming the height from the center of the fire pot to the first floor to be about 7 feet, the actual theoretical velocity would be only 440 feet per minute if there were no resistance to the passing of the gases through the warm air heater. If the air is taken from the outside so that the difference in temperature is 130 to 140 degrees then the velocity may be as high as 660 feet per minute. Of course, we realize that part of this theoretical velocity is going to overcome friction and only about 60 per cent is available in a well designed plant. This gives a velocity of 250 feet per minute to the first floor rooms for recirculated air and about 400 feet per minute when the air is taken from the outside.

Recirculation of Air and Correct Flues.

If the velocity is lower with recirculated then we will have to design the flues more carefully when air is recirculated than when it is taken from the outside. Fortunately, when recirculated air is used we do not need as much heat and this fact probably accounts for satisfactory operation in many cases when otherwise the air supply would be too limited and warm air heater design improper.

Effect of Resistance.

There is one thing that always helps out the design of a warm air heater plant. If the resistance of the plant is high then the air passes through the warm air heater slowly and enters the rooms at a high temperature so that less air is required to do the heating. On the other hand, if the resistance of the plant is very low the air slips through the warm air heater easily, does not receive as much heat and therefore enters the room at a lower temperature. In other words, the warm air heater to a certain extent is automatic and adjusts itself to the design of the system. This, however, is not true of its parts. If one part of the system has a higher resistance as compared with another then almost all the heat goes to the point of the lowest resistance and a very small part of the heat goes to the part of the plant that has a higher resistance. It is the velocity through the warm air heater that determines the temperature of the air leaving the warm air heater and not the velocity through any particular part of the system.

Heating Surfaces.

The heating surfaces in a warm air heater are those surfaces through which the heat of the fire is transmitted to the air and, as stated before, they are divided into two types, direct and indirect. As to the relative proportion of direct and indirect heating surfaces in a warm air heater I do not know that any experimental work has been done. Judging from the analogy with steam furnaces I would say that about 60 per cent of the surface in a warm air heater should be direct heating surface and about 40 per cent flue surface.

Little Is Known About Heat Surface Transmission.

Taking heating surfaces as a whole, we know comparatively little about the amount of heat transmitted through these surfaces. Some years ago I conducted tests on two different types of warm air heaters and these tests showed that the rate of heat transmitted through the air heating surfaces per degree difference of temperature per hour is from 2½ to 3 British Thermal Units. Assuming the temperature of the gases leaving the fire pot as 800 and the temperature in the chimney 400 degrees, gives an average temperature along the heat surface of 600 degrees. Assuming the temperature of the air coming into the warm air heater as 60 degrees and that going out as 140 degrees gives an average temperature of the air of 70 degrees. The average temperature of the hot side of the warm air heater is 600, the average temperature on the cold side of the warm air heater is 100 degrees, making an average difference between the sides of the warm air heater 500 degrees, and multiplied by 3, the constant of heat transmission, gives 1500 British Thermal Units per square foot of heat surface on an average. Practical demonstration in the laboratory shows that this heat transmission may be as high as 1800 British Thermal Units per square foot of heating surface. I believe it would be safe to assume 1800 British Thermal Units per square foot of heat surface.

Grate Surface.

In designing the grate surface to do a certain amount of work it is necessary to know the average weight of different kinds of fuel that can be fired per square foot of grade. The following data has been assumed:

Anthracite coal	52.5 pounds per square foot
Bituminous coal	40.0 pounds per square foot
Coke	30.0 pounds per square foot

The heat value of these coals has been assumed as follows:

Anthracite	12,500
Bituminous	13,000
Coke	12,000

If we assume the grate to be filled 18 inches deep with coal, it is possible with anthracite coal to fire about 78 pounds of coal per square foot of grate. It will be necessary to leave about 20 pounds of this coal in order to kindle a new fire. This leaves 58 pounds of coal that can be burned at each firing period. If we allow 65 per cent efficiency and a heat value of 12,500 British Thermal Units for the coal, there is available 470,000 British Thermal Units per square foot of grate at each firing period. If we assume a ten-hour firing period this gives 47,000 British Thermal Units per square foot of grate per hour. If the air is recirculated all of this heat is available for heating. Roughly speaking, each cubic foot of space in the house requires about 5 British Thermal Units per hour so that each square foot of grate will take care of 9,400 to 10,000 cubic feet of space. If outside air is taken at zero and enters the room at 140 degrees then only half of the heat is available for heating and one square foot of grate will take care of 5,000 cubic feet of space in the house.

Differences in Design Required.

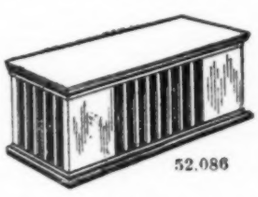
There should be a very distinct difference in design when the warm air heater is to be used for recirculating purposes or taking air from the outside. The above calculations are made with the rate of coal combustion of 5.8 pounds per hour. This, of course, is the rate for maximum heat production and normally the rate of burning would be much less.

Rate of Heat Transmission.

The heat transmission as previously determined per square foot of heat surface should not exceed 1,800 heat units per square foot per hour. If the grate surface gives off approximately 47,000 heat units per square foot per hour the ratio of grate surface to heating surface for anthracite coal should be from 1:25 to 1:30. This ratio, however, entirely depends upon the firing period and the kind of fuel. If coke is to be burned at the same firing period the heat given off per square foot of grate will be very much less and the ratio might be as low as 1:15. Still a different ratio should be maintained for bituminous coal. Commercially the warm air heater manufacturer compromises this matter and the ratio between heat surface and grate surface is from 1:20 to 1:25. There is, however, no uniformity of practice and it would be well if some standard should prevail or be generally accepted. The different warm air heater companies vary in this ratio from 1:12 to 1:40. Obviously the warm air heater company that uses 1:12 is selling its customers an uneconomical warm air heater. On the other hand, the warm air heater company that uses from 1:40 is selling its customers a good deal of unnecessary cast iron. There is great need of research work in this field to establish data that can be relied upon for the guidance of all engaged in this branch of industry.

ORNAMENTAL DESIGN FOR A DUPLEX REGISTER.

James M. Triggs, Huntington, Indiana, assignor to The Majestic Company, Huntington, Indiana, has been granted United States copyright on the ornamental design for a duplex register which is shown in the accompanying illustration, under number 52,086. The term of patent is seven years. The claim was filed March 22, 1918, under the serial number 224,083.



The Mahoning Foundry Company, Youngstown, Ohio, has broken ground for the erection of a foundry and storage house.

FITS ANY STYLE WARM AIR HEATER.

It often happens in places where warm air heaters have been installed that all of the rooms cannot be heated. Although investigation usually proves in such cases that the heater has sufficient capacity, and although ample fuel is used, the heated air cannot be forced through pipes leading any extraordinary distance from the warm air heater. In order to overcome this objectionable feature a device of a most practical nature has been put on the market by the Frank D. Stolz Company, 3129 North Clark street, Chicago, Illinois. This device is shown in the accompanying illustration. It is known as the Champion Hot Water Combination Boiler. An important fact about this boiler is that it is made in sizes to fit any style of warm air heater. The opening in the top of the base section permits the flame and reflection of the fire to come in contact with the surfaces and through the openings in the ring sections making this an effective heater. One or more ring sections can be added for additional capacity, to be determined by the amount of hot water radiation to be used. The sections are connected with extra heavy threaded nipples, making all joints absolutely tight. The following are important facts about these boilers which the manufacturers advance, and which they claim make them of great value on any warm air heater:

Champion Hot Water Combination Boiler, Made by The Frank D. Stolz Company, 3129 North Clark Street, Chicago, Illinois.

They are built along scientific lines for durability and service.

They are adapted for use with all kinds of fuel.

They will increase the heating efficiency of any warm air heater.

They will reduce coal bills.

They will give an equal distribution of heat.

They will make a cheerful home for the man who uses them.

They will increase business for the dealers who handle them.

The company invites dealers and installers to investigate the merits of the Champion Hot Water Combination Boilers. A catalog and other literature will be sent upon application to those who address the Frank D. Stolz Company, 3129 North Clark Street, Chicago, Illinois.

IS BUILT UPON SCIENTIFIC LINES.

As a general rule, science makes for simplification. In other phrase, science is the classifying in an orderly system of facts heretofore uncollected and more or less confused. When, therefore, the expression is used that a warm air heater is built upon scientific lines, it signifies that haphazard and complex knowledge has been rendered simple and compact in its application to the construction of such a heater. An examination of the parts and working principles of the Moncrief Warm Air Heater, shown in the illustration herewith, reveals a sound basis upon which to place the claims of the Henry-Miller Foundry Company, Cleveland, Ohio, in behalf of this heater. Such an examination bears out the Company's contention that the Moncrief Warm Air Heater is constructed upon scientific principles and that it is a simple, durable, economical, and powerful heater.

Moncrief Warm Air Heater, Made by The Henry-Miller Foundry Company, Cleveland, Ohio.

The material used in its manufacture is cast iron. The reason given for preferring cast iron is that it is the one metal which will withstand the strain of continued fire. Simplicity of construction means economy of labor. It is easily installed; and there are no unnecessary parts to delay the work of placement. In addition, the Moncrief Warm Air Heater saves fuel. It requires the minimum amount of coal to produce a maximum quantity of heat. Other features of this heater are described in the profusely illustrated catalog which the Henry-Miller Foundry Company, Cleveland, Ohio, will send upon request from any dealer or installer.

ASBESTOS IS AID TO FUEL SAVING.

The value of magnesia and asbestos for pipe coverings to conserve fuel is now so generally recognized that the War Industries Board has taken steps toward the more universal use of these materials under proper conditions as a measure of conservation. With this purpose in mind, it has issued the following statement:

A committee representing the manufacturers of magnesia and asbestos coverings and textiles of the United States was accorded a hearing before the priorities commissioner and other representatives of the War Industries Board for the purpose of presenting claims for preferential treatment in procuring supplies of fuel, raw materials, and transportation service.

The hearing clearly developed the fact that a free and proper use of magnesia and asbestos in heating plants and in pipe coverings enormously conserves fuel; and because the demands for fuel far exceed the supply now available, or that can be made available, it was determined that the production of magnesia and asbestos coverings should be stimulated in so far as they are used in connection with heating plants and other uses measurably curtailed.

The asbestos industry of the United States is in better condition now than ever before, especially as to the quantity and the grade produced, and the outlook is encouraging. Most of the asbestos used in the

large asbestos factories of the United States comes from Canada, but the growing appreciation of the high quality American fiber, especially that from Arizona, is a welcome feature of the industry.

The total quantity of domestic asbestos sold in 1917, according to J. S. Diller, of the United States Geological Survey, Department of the Interior, was 1,683 short tons, valued at $506,056, an increase of about 13 per cent in both quantity and value over 1916. Most of the domestic asbestos comes from Arizona, where the proportion of crude spinning fiber to that of lower grades is much larger than in Canada, so that the average price of American fiber in 1917 was $301 a ton, whereas the average price of that in Canada was only about $50.

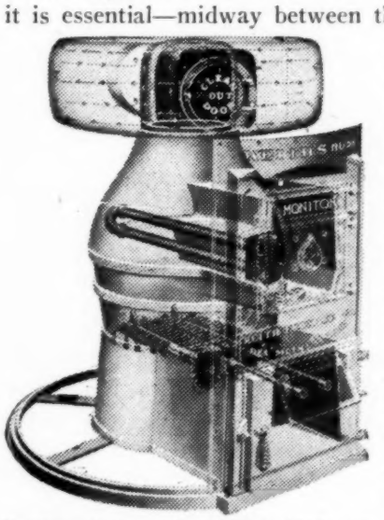
Some years ago the opinion was expressed that as the Arizona fiber contains less iron than that mined in Canada it is therefore better adapted to use for electrical insulation than the Canadian fiber. This opinion has lately been confirmed by analyses made by R. E. Zimmerman, of Pittsburgh, whose investigations also indicate that the harshness of certain parts of the Arizona asbestos is due to thin films of calcite among the fibers.

A small amount of spinning fiber was mined in Fremont County, Wyoming, from a contact deposit of remarkable interest.

The increased demands for asbestos due to the war have been met largely by increased imports from Canada. The imports of asbestos from South Africa and Italy have been largely cut off. The demand for imported asbestos for use in filters is being supplied by amphibole asbestos obtained from residual deposits of the crystalline rocks of Maryland.

ASSERTS MONITOR WARM AIR HEATER IS DESIGNED FOR SERVICE.

In the accompanying illustration is shown the Monitor Warm Air Heater made by the Keith Furnace Company of Des Moines, Iowa. The firepot is made in two separate sections to allow for expansion where it is essential—midway between the top and bottom. Attached to the upper section of the firepot and made a part of it by being a complete casting, is the bottom of the feed chute, the under side of which is fitted with a collar which has a dust-flue connection to the top of the ash pit. The dust flue allows a flow of heated air to be drawn up and discharged over the burning coals, thereby insuring whatever value may attach to a hot blast feature. The grates used in this heater are of the triangular bar pattern, which the company claims has proved to be the most satisfactory style. Grates can easily be replaced through the ashpit door which is as roomy and as deep as is practicable to make it. It has a deep cup flange to receive the lower section of the firepot and is provided with a collar or flange at the front on top, over which the dust flue is placed. Full particulars together with catalogs and literature may be obtained by writing the Keith Furnace Company, Des Moines, Iowa.



Monitor Warm Air Heater, Made by the Keith Furnace Company of Des Moines, Iowa.

MAKES A USEFUL AND CONVENIENT ADDITION TO WARM AIR HEATER.

In many homes the problem of heating water for domestic use is a source of constant vexation. From the point of view of economy, therefore, any device which makes use of heat already in process of production in order to obtain an ample supply of hot water for bathing and laundry purposes is sure to command favorable attention. In this connection, consideration should be given to the Crown Water Heater, illustrated herewith, made by the Forest City Laundry and Manufacturing Company of Cleveland, Ohio. This device has a capacity of from thirty to sixty gallons—sufficient for all the ordinary needs of a large family. It can be installed in any style or make of warm air heater. It is placed just above the firepot. According to the manufacturers, it does not obstruct the fire nor detract from the heating power of the warm air heater. The Crown Water Heater is made in one piece of cast iron and tested with high pressure. It is threaded for one inch pipe. Dealers and installers can obtain full particulars by addressing the Forest City Foundry and Manufacturing Company, Cleveland, Ohio. This Company also makes an excellent line of warm air heaters, noted for their material, workmanship, serviceability, and amplitude of size.

The Crown Water Heater, Made by the Forest City Foundry and Manufacturing Company, Cleveland, Ohio.

ADVERTISING REDUCES PRICES.

Advertising, as a general rule, helps reduce the cost of goods. The money spent on "ads" in America totals $616,000,000, or $6.85 per capita each year. By reason of greatly increasing sales, advertising tends to reduce the cost per article of manufacturing and marketing and the consumer gets the benefit. But, in order to be sold successfully through publicity, an article must have real worth, and the article also ought to have distinctive features.

Of the failures last year 84 per cent had been found to be men or firms not advertising. The idea that goods may eventually become so well known as not to need advertising shows a serious mistake, in this that new buyers are coming fast and old ones are dying.

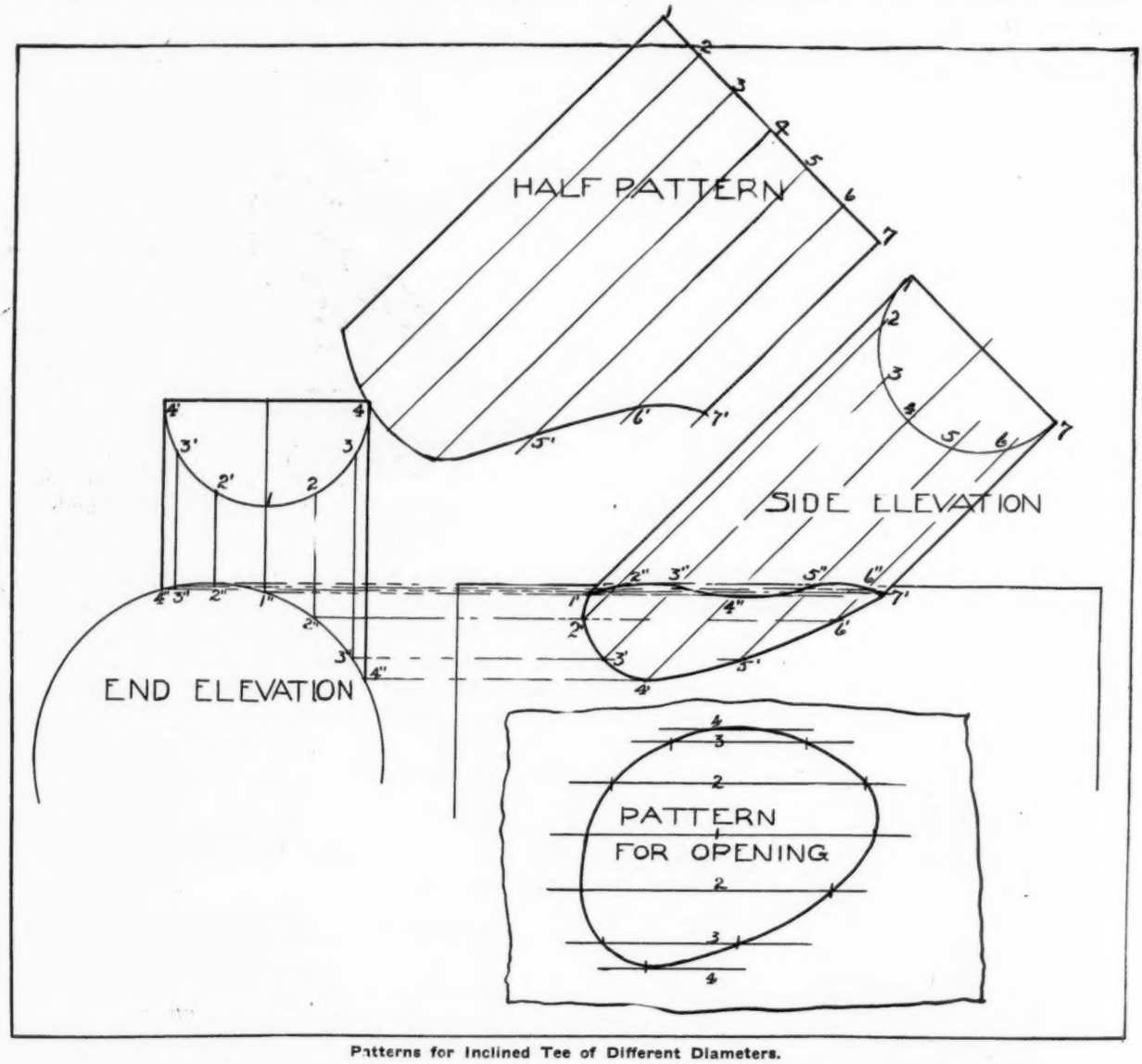
PRACTICAL HELPS FOR THE TINSMITH

PATTERNS FOR AN INCLINED TEE OF DIFFERENT DIAMETERS.

By O. W. Kothe.

In pipe work we meet with problems of this kind shifted in many different angles and locations. All these problems are worked out on a similar scale of projection, the combination changing here and there where certain miters require certain treatment. So in this case by inspecting the end elevation the small branch fits over on the side of the large main pipe. Glancing at the side elevation this branch pipe fits on an incline. So therefore we first describe the large arc of end elevation, and in the desired position draw the Tee pipe and describe the half circle as shown. Divide this half circle into equal parts and drop lines cutting the large arc. Observe the points where these lines cut the large arc which are the points of penetration of lines intersecting the large pipe from an end view.

Next draw the side elevation making the line 1-1′ to the desired angle of 45 degrees in this case. Draw the line 1-7 at right angles and from its center describe the half circle with the same radius used for the end elevation. Also divide it into similar divisions.



Patterns for Inclined Tee of Different Diameters.

Then, project lines parallel with 1-1′ indefinitely. Observe by projecting horizontal lines over from each point as 4″-3″, etc., of end elevation into side elevation, then where lines of similar number cross, as 1′-2′-3′-4′-5′, etc., also 2″-3″-4″- etc., trace a miter line as shown. This gives the points of penetration between this branch and the main pipe, from the side view.

To set out the pattern for branch pick the stretch-out from the half circle and step off as 1-7. To be accurate this should be measured and made equal to

half the circumference of branch. Then draw stretchout lines parallel to 1-1′ and from each point in miter line project over lines into pattern as 7′-6′-5′, etc. This gives the half pattern for branch.

If it is the desire to lay out the pattern for opening then observe how the branch pipe fits on the end elevation. The distance 4-4″ will have to be cut out so pick these points separately in numerical order and step them off in side elevation as shown. Draw stretchout lines and from each point in miter line, drop points cutting lines of similar number which gives intersections for tracing the miter cut. These openings are only developed where the workman has many branches of a similar kind to make but for only one fitting most workmen cut the opening out after the pipe is made up using the branch to mark it with.

MICHIGAN SHEET METAL CONTRACTORS' ASSOCIATION PLANS OUTING.

The Third Annual Sports Day of the Michigan Sheet Metal Contractors' Association is to be held at Lansing, Michigan, July 19 and 20, 1918, and indications point to a very large attendance. The entire afternoon of the first day of the outing will be spent in visiting the Industrial School for Boys, the State School for the Blind, and the Michigan Agricultural College. Automobiles will start from the Hotel Kerns promptly at 1 p. m. At 6:30 a banquet and entertainment will be furnished by the Lansing local and the state association.

The program for the second day of the outing, Saturday, July 20th, is as follows:

9 a. m. Baseball.

10:30 a. m. Baseball.

12 o'clock. Lunch.

1 p. m. Foot races, baseball throwing contest and sports in general.

2:30 p. m. Baseball game between the winners of the morning games to decide the ownership of the State Loving Cup.

Floyd Herrington of Lansing, Michigan, is chairman of the Committee on Arrangements. Associated with him in the work are George Gregory and H. B. Martin. Members of the association are requested to notify Mr. Herrington at Lansing before Friday noon the number of banquet tickets their party will require. This is quite necessary, as it will be impossible to give out any tickets after this time.

The official headquarters will be at the Hotel Kerns.

Members are requested to bring their families, as special entertainment has been provided for them.

BOARD OF DIRECTORS MASTER SHEET METAL CONTRACTORS' ASSOCIATION OF WISCONSIN MEETS.

Making haste slowly is the part of wisdom in some circumstances. The advantage of obeying the injunction of this proverb was demonstrated in the meeting of the Board of Directors of the Master Sheet Metal Contractors' Association of Wisconsin which convened at 4:35 o'clock Monday afternoon, July 10, 1918, in Builders' and Traders' Exchange, 456 Broadway, Milwaukee, Wisconsin. The chief topic for discussion was the matter of devising ways and means for increasing the membership of the State Association and sustaining the enthusiasm and interest of those who are already numbered in its ranks. A wide range of opinions and suggestions was covered. Arguments for and against each plan were advanced, with the result that the sum total of available and practical methods was greatly enlarged.

Particular attention was centered upon the effectiveness of publicity as an instrumentality for carrying on a vigorous membership campaign. It was the consensus of those present, however, that the actual beginning of this campaign should be postponed until the fall of the year. During the summer months it is difficult to enlist the active support even of the most faithful workers for more or less obvious reasons. Summer is naturally a season of relaxation. Many persons go out of town for periods varying from one week to a month or more. Meetings are not well attended. Even the oldest and strongest lodges encounter difficulties in mustering a quorum during summertime. Indeed, many such lodges wisely suspend meetings during that time. The wisdom of making haste slowly, therefore, is quite apparent. The Board of Directors of the Master Sheet Metal Contractors' Association of Wisconsin did well to postpone the inauguration of the membership campaign until next autumn.

The Secretary, Paul L. Biersach, reported that since the last meeting two firms have applied for membership and have been admitted to the Association. The tentative draft of an ordinance to license sheet metal workers and journeymen was brought to the attention of the Board of Directors. The importance of the subject was considered to be so great that it was decided to postpone definite and final action on the matter until later on in the year, so that everyone interested may have an opportunity to voice his opinion.

THE SOLDIER'S CHANCES ARE GOOD.

Great as the danger and large as the losses in the aggregate, the individual soldier has plenty of chances of coming out of the war unscathed, or at least not badly injured.

Based on the mortality statistics of the allied armies, a soldier's chances are as follows:

Twenty-nine chances of coming home to one chance of being killed.

Forty-nine chances of recovering from wound to one chance of dying from them.

One chance in 500 of losing a limb.

Will live five years longer because of physical training, is freer from disease in the Army than in civil life, and has better medical care at the front than at home.

In other wars from 10 to 15 men died from disease to 1 from bullets; in this war 1 man dies from disease to every 10 from bullets.

For those of our fighting men who do not escape scathless, the Government under the soldier and sailor insurance law gives protection to the wounded and their dependents and to the families and dependents of those who make the supreme sacrifice for their country.

MATERIAL AND CONSTRUCTION ARE NECESSARY TO GOOD WORK.

In a cornice brake the first essential is the right kind of material. It is a fact amply demonstrated by experience that cast iron brakes spring out of alignment when the parts are subjected to heavy strains and, in the course of time, the deviation from alignment becomes a permanent defect in the mechanism. This is due to the separation of the coarse molecules of the cast iron, the cohesion of which is markedly less uniform and intimate than that of steel. The logical consequences of this deviation from normal lines is that, after a while, the cast iron brake will cease to bend material straight or true.

It is evident, therefore, that the material of which a cornice brake is made plays a leading part in its efficiency of operation. The superiority of steel in this connection admits of no controversy. In the rolling process steel is put under enormous pressure while hot, thus forcing its molecules into more compact grouping. Steel is three times as strong as cast iron. To achieve the same results, it requires three times less weight of steel than of cast iron. The material used in the making of the Chicago Steel Cornice Brake,

Chicago Steel Cornice Brake, Made by Dreis and Krump Manufacturing Company, 2915 South Halsted Street, Chicago, Illinois.

shown in the accompanying illustration, is high grade rolled steel. Manifestly, it is superior to cornice brakes built of cast iron.

Furthermore, the construction of the Chicago Steel Cornice Brake, made by the Dreis and Krump Manufacturing Company, of Chicago, Illinois, is a patented arrangement of heavy steel plates placed in such positions that the strain is directly against the edge of the various plates, thus assuring strength and accuracy. These and other features are explained in an interesting illustrated catalog which may be secured by writing to the Company.

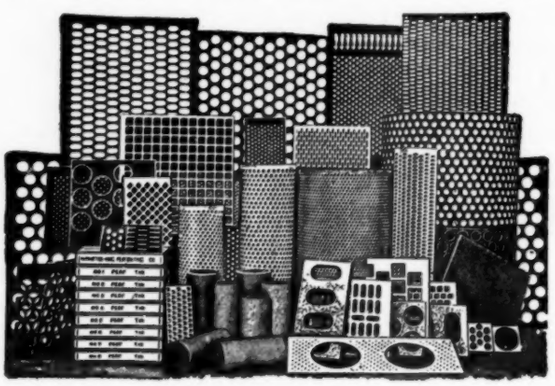
OBITUARY.

Charles G. Warren.

The end of a long and useful life was reached by Charles G. Warren, whose death occurred at Pennoyer Sanitarium, Kenosha, Wisconsin, a few days ago. He was formerly a member of the Chicago firm of Warren and Fuller, said to be the original makers of tin plate in the United States. At the time of his retirement from active participation in business six or seven years ago he was connected with the McVoy Sheet Metal and Tin Plate Company of Chicago, Illinois.

MAKES PERFORATED METAL PRODUCTS OF EVERY DESCRIPTION.

It is, indeed, a satisfaction, in trading with a manufacturing concern, to know that you can get exactly the article you are looking for at any particular time. For this reason, it is advisable for those who use perforated metal products to deal with a company which makes everything needed in this line, from the smallest to the largest article, such as, for example, the



Group of Perforated Metal Products, Manufactured by The Harrington and King Perforating Company, 610 North Union Street, Chicago, Illinois.

Harrington and King Perforating Company, 610 North Union Street, Chicago, Illinois. This company manufactures perforated metals of every description. A number of its products are shown in the accompanying illustration. The following are some of the articles which it makes: perforated steel plates and sheets (black or galvanized), perforated sheet copper, brass, bronze, aluminum, lead, zinc, monel metal, and other alloys; screens, plates, and sheets for ores, coal, stone, cement, and all kinds of grain cleaning and sorting apparatus for centrifugal linings, filter press plates, drying floors, false bottom strainers, extractor baskets, revolving screens, shaking screens, and chute screens; grilles and ornamental screens for radiators, ventilators, air vents, heat vents, in private and public buildings, made to suit public requirements; perforated tin and brass in standard sizes are also carried in stock by this company. Those who desire information regarding anything in perforated metal should write to the Harrington and King Perforating Company, 610 North Union Street, Chicago, Illinois.

ADVISES USE OF SIMPLE WORDS.

A writer in *Printers' Ink* gives some sound advice with regard to the wording of advertisements. He declares that there is too much writing for the few and not enough for the many. You still see the word "feline" used when the writer should say "cat." Why not use the word "cat" when you know that a hundred per cent of your readers know what the word means? Use the obvious word each time. Isn't it just good, common sense to use a word that will be understood by the hundred per cent, if there is such a word?

Become a stockholder in the United States—buy War Savings Stamps.

THE AMERICAN SHEET AND TIN PLATE COMPANY USES PLEDGE TO GET HIGH LABOR EFFICIENCY.

A labor efficiency program recently inaugurated by the American Sheet and Tin Plate Company of Pittsburgh, Pennsylvania, has given such satisfactory results that it deserves to be studied in detail by other employers. The plan is susceptible of wide application. With appropriate modifications to suit special conditions in individual plants, large or small, it is capable of being put into practice in any industry. The plan was first conceived by the Company about June 1st and all the details were worked out by the officials. The intention of the program is to induce the men to strive for the highest efficiency.

The employes are pledged to lose no time except from unavoidable causes, and to watch their fellow workmen to see that all do their full duty. While good results were expected, the officials were astonished at the enthusiastic manner in which the men took hold. The Company operates 13 sheet plants and 14 tin plate plants. A complete tabulation of the number of men at each plant speaking each language shows that no less than 59 languages are represented. Thus far, however, on account of men speaking more than one language it has been found unnecessary to print literature in more than seven languages outside of English.

The first operation was to post notices, about June 19th, at all works, in English, Polish, Slovak, Hungarian, Italian, Greek and Russian, as follows:

Workmen's 100 Per Cent Efficiency Pledge.

I realize that the greatest possible production in essential manufacturing industries is necessary for America to win the War.

I realize that the manufacture of Steel Sheets and Tin Plates is one of the most essential industries.

I realize that every day I am absent from my work the production of the department in which I am employed is decreased.

I realize that it is my duty as a workman in an essential industry to give 100 per cent of working time and energy in supporting the American Government and winning the War.

In signing this card I pledge myself for the period of the War to give my full time and energy, to work steadily and efficiently, and to use my best efforts to induce my fellow workmen to do likewise in support of the United States Government.

Signed.....

NOTE—

On signing and returning this Pledge Card each workman will receive a *White* 100 per cent Efficiency Button, which he is requested to wear at all times.

On completion of 30 days' continuous service this will be exchanged for a *Red* Button.

On completion of 60 days' continuous service the *Red* Button will be exchanged for a *Blue* Button.

On completion of 90 days' continuous service the *Blue* Button will be exchanged for a *Red, White* and *Blue* Button. This will be the Permanent Pledge Button and is to be retained permanently, or as long as workmen work steadily and efficiently. Along with the red, white and blue button a Service Certificate will be presented by the Manager, which will read as follows:

"This is to certify that..... has been faithful in his attendance and in the performance of his duties for a period of 90 days, and is now placed on our Honor Roll of Efficiency Men."

(Signed) AMERICAN SHEET AND TIN PLATE COMPANY,
.....Manager.

Absence from duty will be investigated and if absolutely unavoidable will not go against efficiency record.

The first pledge cards were available less than a week afterward, but before that time the men began calling for them. They wanted to begin as soon as possible, so as to complete the 30, 60 and 90 day periods at the earliest times. The management had made the schedule run 90 days for the purpose of carrying over the summer, when men are particularly prone to absent themselves, also to quit before the end of the turn if another man in the crew has gone. Immediately there was a call from the Roumanians for pledge cards in their language, and this need was promptly met. Plant managers were instructed to secure pledge cards in a fresh language if only one man expressed the desire for it.

The pledge cards are heavy cardboard, 7½x9 inches, with a neat border and the American flag at the top. The pledge is first given in English and then in the foreign language. The workman signs the pledge and hands it in, whereupon a record is made by the Company and the pledge is returned, in expectation that the workman will hang it up at home, with the knowledge that the office has a record of his having signed it. The white button is then given to the man. Each button carries in large letters "100 per cent *Efficiency Man*" with the name of the Company around the edge. The only difference in buttons is in the color.

A record of attendance is kept, quite apart from the payroll, as allowance is to be made for unavoidable absence, and each case of absence is investigated. It was quickly found, moreover, that the workmen were very strongly disposed to look after their own number, showing a very strong spirit of co-operation.

Finally, the following certificate is provided, to be given at the end of 90 days, in the expectation that men will frame it:

Honor Roll of Efficiency Men Service Certificate.

This is to Certify that.....has been faithful in his attendance and in the performance of his duties for a period of ninety days and is now placed on our Honor Roll of Efficiency Men.

AMERICAN SHEET AND TIN PLATE COMPANY,
.....Works,
.....Manager.

Date.....

This certificate is printed on heavy white cardboard, red and blue ink, with the flag at the top.

To further the idea the company has had the valuable service, as a 30-minute speaker, of Sergeant Ronald Kingsley, 58th Canadian Infantry, who had 17 months of active service and was wounded five times in the Battle of the Marne. Sergeant Kingsley has had an enthusiastic reception and audience at all the works he has visited.

The mistake was avoided of expecting the men to attend on their own time. The whole plant is closed for the period of the meeting. The morning address is 8 to 8:30, when the first turn men of the three-shift men are leaving and the second are reporting for duty, while the two-turn men, both 10-hour and 12-hour, have gone on duty at 7 o'clock and are given the time off. The second meeting is between 6 and 7 p. m., when the third turn of the three-shift men is about to go on, the 10-hour night men have gone on duty at 6 p. m. and the 12-hour night men (watchmen, etc.) are to go on duty at 7 p. m. Thus men attend either on the company's time, or as they are beginning or ceasing work.

Within a very few days after the inception of the

plan at individual works, the beginning being at the Monessen, Farrell and New Castle plants, where there is the largest percentage of foreigners, the men in individual departments began organizing of their own, with the aim of having the entire department make a 100 per cent efficiency record of its own. The same occurred with hot mill crews, and the company holds itself ready to furnish crew certificates if desired. The clubs provide a fine of $1, to go to the Red Cross, for each absence.

The officials of the American Sheet and Tin Plate Company are highly gratified at the manner in which the plan has taken with the workmen and although considerable time is required to put the system in operation at the different works, in a fortnight after the first notices were posted there was assurance of success, evidenced not only by the enthusiastic reception accorded by the men, but by a very sharp improvement in attendance at work.

GOOD FORMING ROLL IS ESSENTIAL TO SHEET METAL SHOP.

More than ever before in the history of American industry is the necessity of thorough efficiency evident. Not only in the supreme task of winning the war but also in the critical period of reconstruction after victory shall have been won by the Allies, wasteful methods of production, antiquated methods of work, and everything which slows down the rate of output must be eliminated. With this end in view, the sheet metal shop should be provided with efficient labor-saving equipment. The right kind of machinery is a matter concerning which there is no room for dispute. Forming rolls, cornice brakes, presses, punches, etc., should be of the sort which gives steady and reliable service. In this connection attention is called to the 50-inch Forming Roll, shown in the accompanying illustration, manufactured by Bertsch and Company, Cambridge City, Indiana. It is built in all standard sizes. It has a patent opening device by means of which it can be opened and closed in a few seconds, thus effecting a considerable saving of time during the course of a day's work. It has other advantages, according to the claims of the manufacturers, which are explained in their catalog. A request to Bertsch and Company, Cambridge City, Indiana, will bring further particulars.

50-Inch Forming Roll, Made by Bertsch and Company, Cambridge City, Indiana.

NOTES AND QUERIES.

Antique Copper Finish.

From A. S. Erickson, Box 318, Ames, Iowa.

Kindly give me a formula for putting an antique copper finish on iron and steel such as door butts, knobs, locks, etc.

Ans.—To bronze cast-iron the first step is to clean the surface and then coat it uniformly with a layer of olive oil (a low grade will answer), then heat it, without, however, raising the temperature to the burning point of the oil. This will cause the cast-iron, as the minute the decomposition of the oil is accomplished, to absorb oxygen and will cause the formation of a brown surface of oxide, whose adherence is very firm. It will acquire a good polish, thus giving the surface of the cast-iron a bronze-like appearance.

Iron articles are easily coppered or brassed by dipping in copper solutions, or else coppered or brassed by the galvanic method; these coatings also scale off after a short time, especially if the iron surface was not thoroughly cleaned, when exposed to the influence of moist air. By the following process it is easy to provide iron articles with a handsome bronze-colored protoxide coating; it resists the influence of humidity pretty well, and besides this, the operator has it in his power to produce any desired bronze color in a simple manner.

The cleansed and scoured articles are exposed to the vapors of a heated mixture of concentrated hydrochloric and nitric acids (1 and 1) for from two to five minutes; and then, without unnecessarily touching them, heated to a temperature of 300 to 350 degrees. The heating is continued until the bronze color becomes visible upon the articles. After they have been cooled, they are rubbed over with petroleum jelly, and again heated until the jelly begins to decompose. After cooling the article is anew rubbed over with petroleum jelly. If now the vapors from a mixture of concentrated hydrochloric and nitric acids are permitted to operate upon the iron article, light red-brown tones are obtained. However, if acetic acid is mixed to the mentioned two acids, and the vapors permitted to operate upon the iron, oxide coatings are obtained, possessing a handsome bronze yellow color. All graduations of color from dark red-brown to light red-brown or from bronze-yellow to dark brown-yellow are produced by varying the mixture of the acids.

(2) Iron has sometimes to be bronzed for domestic use. The following is a very simple way of obtaining a good bronze: Mix an equal quantity of butter of antimony and oil of olives: put this mixture on the iron which is required to be bronzed with a brush, the iron having been previously brightened with emery and cloth, and leave it for several hours. Then rub with wax and varnish with copal.

To secure a bronze-like surface on iron and steel, and one impervious to oxidation, first clean the object, then expose for two or three minutes to the action of the fumes of a heated mixture of nitric and hydrochloric acid in equal proportions at a temperature ranging from 550 degrees to 660 degrees Fahrenheit. When the object has cooled rub it with vaseline and then heat until decomposition of the vaseline commences. Repeat the vaseline treatment. Should a coloring lighter than bronze be desired mix acetic acid with the other acids. In making this bronze one should be very careful both in handling and preserving these acids.

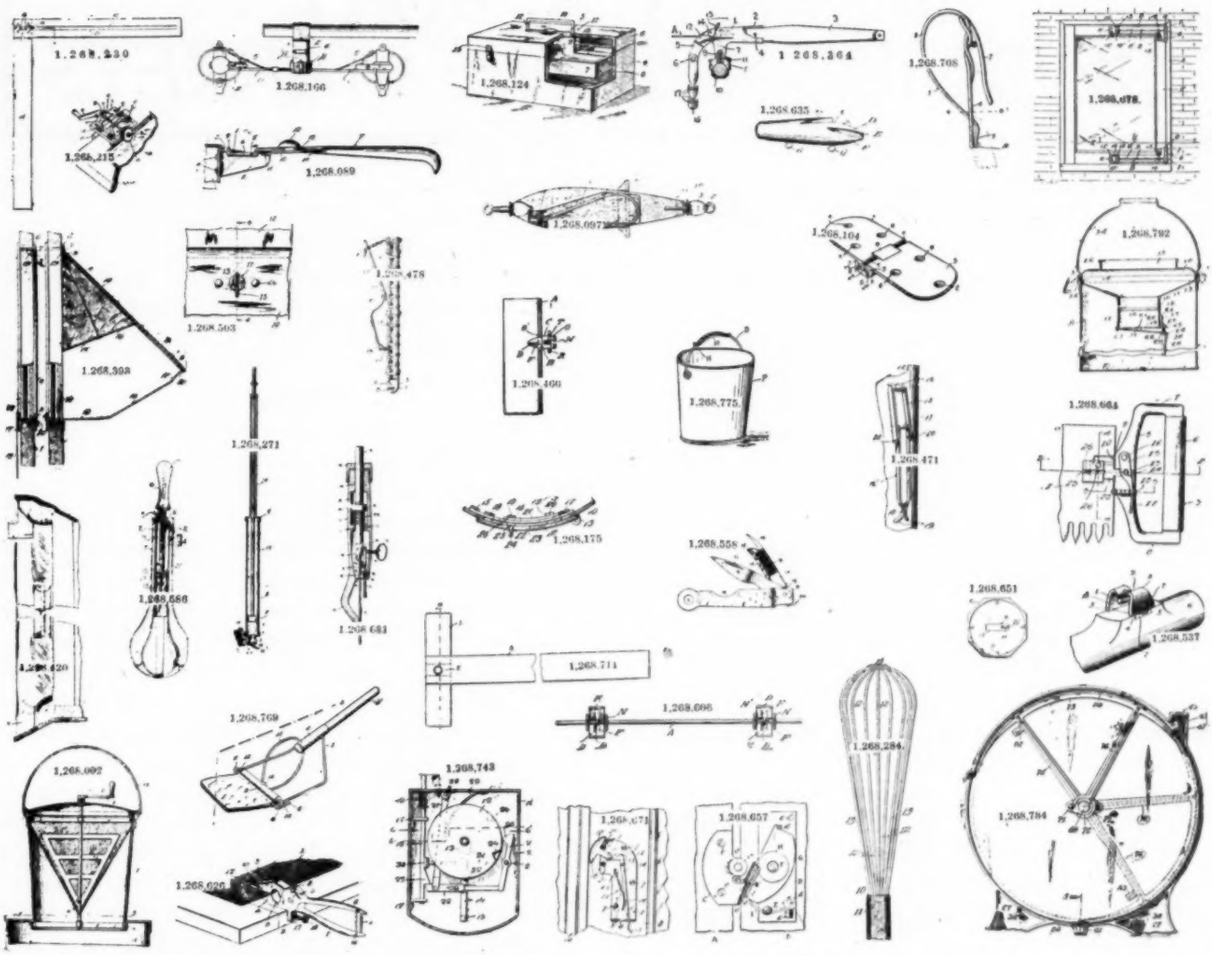
Warm Air Heater Manufacturers.

From C. L. Epps, Van Wert, Ohio.

Kindly advise who in Bloomington, Illinois, manufacture warm air heaters.

Ans.—American Foundry and Furnace Company; and P. H. MaGirl Foundry and Furnace Works.

NEW PATENTS.



1,268,089. Detachable Utensil-Handle. Anton A. Borsse, Sheboygan, Wis., assignor of one-half to George Pirc, Sheboygan, Wis. Filed Dec. 7, 1917.

1,268,092. Ash-Sifter. Hirsh Burnstone, Brooklyn, N. Y., assignor of one-half to Herman Grubin, Brooklyn, N. Y. Filed May 5, 1917.

1,268,097. Fish-Lure. Henry F. Crandall, Racine, Wis. Filed March 16, 1917.

1,268,104. Hinge. William S. Flick and George A. Lambert, Anderson, Ind. Filed March 8, 1917. Serial No. 153,349. Renewed Jan. 22, 1918.

1,268,124. Tool-Chest. Archer B. Jennings, Meriden, Conn. Filed April 3, 1917.

1,268,166. Animal-Trap. Thomas B. Sheffer, Ashton, Idaho. Filed Aug. 15, 1917.

1,268,175. Stove-Lock. Annie L. Stewart, South Auburn, Nebr. Filed April 16, 1917.

1,268,215. Sash-Tool. William P. Casey, Oshkosh, Wis. Filed Sept. 24, 1917.

1,268,230. Square. Samuel D. Frazier, Carrizo Springs, Tex. Filed April 16, 1917.

1,268,271. Mop. August Nelson, Minneapolis, Minn. Filed Jan. 25, 1917.

1,268,284. Egg-Whip. Eugene H. Ryerson, Worcester, Mass., assignor to Hamblin & Russell Manufacturing Company, Worcester, Mass. Filed March 16, 1918.

1,268,364. Wire-Stretcher. Anton S. Larson, Ibapah, Utah, assignor of one-half to Charles R. Felt, Ibapah, Utah. Filed May 12, 1917.

1,268,393. Hinge. Bernard J. Schwab, Miami, Ariz. Filed March 20, 1917.

1,268,420. Weather-Strip. Roy T. Axe, Syracuse, N. Y., assignor to Oliver M. Edwards, Syracuse, N. Y. Filed Aug. 18, 1913.

1,268,466. Wire-Fastener for Posts. William Francis Hunter, Blaine, Kans. Filed July 3, 1916.

1,268,471. Wire-Gate Fastener and Tightener. Cable B. Jones, Whitewood, S. D. Filed Nov. 2, 1914.

1,268,478. Wire-Clamp. Gail B. Lewis, Notus, Idaho. Filed May 28, 1917.

1,268,503. Lock. John H. Shaw, New Haven, Conn., assignor to Sargent & Company, New Haven, Conn. Filed Dec. 10, 1917.

1,268,537. Front Sight for Firearms. Gustav A. Bader, Rochester, N. Y. Filed Feb. 15, 1917.

1,268,558. Combination-Tool. John Faix and Samuel Faix, San Francisco, Cal. Filed Dec. 11, 1916.

1,268,586. Egg-Beater. Jason Lee Lawton, Buffalo, N. Y. Filed April 13, 1918.

1,268,606. Clothes Line and Fastening Device. Charles A. Olsen and Lewis C. Mapes, Sioux Falls, S. D. Filed Sept. 25, 1917.

1,268,626. Stretching-Pliers. George P. Robertson, Bethesda, Md. Filed Nov. 14, 1916.

1,268,635. Artificial Bait Known as Plugs or Wood Minnows. William H. Shuff, Kansas City, Mo. Filed July 19, 1917.

1,268,651. Caster. Henry Walter, Sanders, Idaho. Filed Dec. 2, 1916.

1,268,657. Screen-Door Catch. Rudolph G. Winter, Milwaukee, Wis. Filed Dec. 13, 1915.

1,268,664. Handle for Crosscut-Saws. Amund Amundson, Bellingham, Wash. Filed Dec. 15, 1915.

1,268,671. Holder for Sliding Doors and Windows. Jerome F. Benson, Lorenzo, Tex. Filed April 30, 1917.

1,268,678. Hinge for Casement-Windows. Andrew Bye, Butte, Mont. Filed Nov. 1, 1917.

1,268,681. Saw-Set. Thomas W. Chalender, Garwood, Idaho. Filed May 17, 1917.

1,268,708. Clothes-Pin. Henry F. Gilbert, Delhi, N. Y. Filed July 28, 1916.

1,268,711. T-Square. Daniel Griffiths, Pittsburgh, Pa. Filed March 25, 1917.

1,268,743. Lock. Philip Madson, Lemmon, S. D. Filed Feb. 20, 1917.

1,268,769. Mop-Head. Lucia Melissa Poole, San Jose, Cal. Filed March 7, 1917.

1,268,775. Rail-Guard. Nathan Stanger, Malden, Mass. Filed April 11, 1917.

1,268,784. Washing-Machine. Otto G. Pfeiffer, Salt Lake City, Utah, assignor, by mesne assignments, to St. Louis Washing Machine Company. Filed Dec. 27, 1911.

1,268,792. Sanitary Milk-Pail. Winfield Catlin, Rockville, Ind., assignor of one-half to Thomas S. Catlin, Guion, Ind. Filed April 3, 1917.

WEEKLY REPORT OF TRADE AND THE MARKETS

GOVERNMENT CONTINUES TO ABSORB GREAT QUANTITIES OF STEEL.

Heavy government orders are still the salient feature of the steel trade. There have been no indications of any lessening of the demand for tonnage. The few steel men who believed that the trade would equalize production and demand along in the Fall, have given up the idea and now accept the general opinion that the war will require the capacity of the mills for many months to come.

The situation in Washington is still unsettled as regards the future attitude of the Administration toward the trade. The reports of the Trade Commission showing heavy profits in the trade for the year lead many to the conclusion that some sort of an effort will be made to equalize earnings. The fact that the Government will take a larger share of profits in taxes is expected to have little to do with the question. Equalization through taxation would have to be arrived at through a tax system based on margins of profits instead of prior earnings, and a system of that sort is believed to be impracticable. The question may in the end be decided by increases in wages. The steadily mounting cost of living indicates that further readjustments are to be expected, and in that event the higher costs in other directions with increased pay for the men will absorb excess margin of profits.

In the past few weeks the Washington authorities have been giving serious consideration to a matter to which the steel producers have frequently referred for months past, and that is that some of the war activities have been calling for, or have been receiving, more steel than they absolutely needed. If there were a plentiful supply this would not matter a great deal, but when some consumers are denied steel it is a matter of importance. The point is that if there is an absolutely essential use and another use that is only moderately helpful, it will do more good to ship a ton of steel to the latter than the former, if the latter can use it and the former cannot.

The Priorities Committee is now working on this subject with the object of curtailing shipments of steel to war activities that have been receiving more than necessary. The intention is to establish a system of allocations whereby the necessary amount of steel shall be furnished and no more. While this subject is being worked up, the Director of Steel Supply has asked the various Government departments to prune their requirements as far as they feel safe in so doing. As a result of this request, for instance, the Shipping Board is working out a system of expediting the movement of steel from mills to fabricating plants, and also of fabricated steel from fabricating plants to shipyards, while it is also intended to standardize stocks carried at shipyards, whereby it will be known at any time whether a given shipyard is carrying more or less than the safe margin.

This activity will operate to release steel for the preference schedule, and through it for miscellaneous distribution after the preference purposes are covered.

STEEL.

Through the medium of the Conservation Division of the War Industries Board, manufacturing consumers of steel are being urged to do what would be regarded as strictly contrary to law if done in ordinary times. In many branches of industry competitive conditions have built up a multiplicity of lines, sizes and designs many of which are really unnecessary but are useful as talking points in making sales. For the manufacturers to get together and reduce the lines would be regarded as in restraint of trade. Every week this activity extends to new branches of trade, the object being to reduce the amount of steel carried in stock for manufacturing or carried in stock in the form of manufactured goods. Two lines that have been taken up in this connection, for illustration, are chain and house heating furnaces. Obviously the manufacturing consumers of steel are only too glad to co-operate with the Conservation Division, and no interference by the Department of Justice is probable.

To simplify discussion of matters relating to the distribution of steel, the War Industries Board has introduced some additional nomenclature. Priority certificates remain, but instead of there being Class A certificates and Class B certificates there are now three, respectively AA, A and B. The "schedule of purposes entitled to preference treatment" is now designated as Class C. The material that may remain, or the "all other" is designated Class D. The last named is the material that can be shipped irrespective of purpose, provided a "permit" is first obtained. To reduce the number of permits required, a blanket permit has been issued, covering individual shipments of not over five tons, subject only to the restriction that the mills shall report each month in detail the orders so filled under this blanket permit, with the certification that the seller believes the filling of the order was "in public interest."

The duty of the buyer of Class D is to place the order with the mill, if possible, and have the mill apply for the permit. If no mill will accept the order the buyer is allowed to apply direct to the Director of Steel Supply for the permit. It will be noted, of course, that Class C material does not require allocation, priority or permit.

COPPER.

The feature in last week's copper market was the unexpected announcement that the War Industries

Board had named a price of 26 cents to remain in effect until Aug. 15, when the producers will have another opportunity to state their case and present definite data as to cost increases. At last Wednesday's conference the producers stated that irrespective of taxes, the cost of mining, milling, smelting, refining and transportation had risen fully four cents per pound since last September when the price of copper was fixed at 23½ cents.

As the Government is anxious to secure a capacity output of copper which is much needed in the execution of the war program, it was decided by the War Trade Board that a fair copper price might help to reach the expected result, and, therefore, the demonstrations of the producers were partly successful.

The conditions under which the maximum price was fixed are: First, that the producers of copper will not reduce the wages now being paid; second, that they will sell to the United States Government, to the public in the United States, and to the allied Governments at not above the maximum price; third, that they will take the necessary measures, under the direction of the War Industries Board, for the distribution of copper to prevent it from falling into the hands of speculators, who might increase the price to the public; and fourth, that they will pledge themselves to exert every effort necessary to keep up the production of copper so as to insure an adequate supply so long as the war lasts.

TIN.

The tendency of the entire tin market is upward. News from London is to the effect that Lamb & Flag tin is unobtainable for shipment to the States even for as far off as October. This kind was quite plentiful a short time ago as one of the chief makers had been holding back and had accumulated a surplus which however was quickly sold on account of the difficulty in getting No. 1 Chinese tin.

There is no change in the situation in No. 1 Chinese tin except that small quantities for future delivery are more readily obtainable, the nominal market on same being for July shipment from China, 91 cents per pound, August 90 cents, September-October 89 cents.

SOLDER.

No changes are reported in the market for solder. Prices in Chicago remain as follows: Warranted, 50-50, per pound, 58 cents; Commercial, 45-55, per pound, 53¼ cents; Plumbers', per pound, 48¼ cents.

LEAD.

Demand for lead continues fair, but offerings are somewhat limited. Producers say that they have little metal to sell for July or August. One of the leading independent producers in discussing the market, declared: "We have no lead to offer at present as we are far behind with our orders and purchasers are demanding the delivery of the lead we have sold. The Government has practically fixed the price of 7.75 cents, and we would not sell for more than that figure, even if we had any lead to sell, which we have not."

After what has happened to copper, it is possible that the maximum price of lead will be raised later on if it is shown to be necessary to bring out a larger production, but everything appears to indicate that the market will stay at 7.75 cents for at least another month or two.

SPELTER.

Whereas a short time ago futures were commanding a premium, the present indications are that fourth quarter spelter in the opinion of buyers is worth less than prompt or third quarter shipments. Indeed, there was a sale of fourth quarter in New York on Monday at 8.50 cents St. Louis, which is $2.00 a ton less than sellers would accept on the nearer positions. The St. Louis market is quiet at 8.65 cents.

SHEETS.

At the meeting of the National Association of Sheet and Tin Plate Manufacturers in Youngstown, Ohio, discussion was had of the question how to curtail sheet steel production to a 75 per cent basis to conform to the steel supply available for finishing mill operations and war needs.

No final decision on the question was reached further than that bars should be supplied all producers alike. The suggestion to close least efficient units was given scant consideration owing to the hardship that such a procedure would work on affected companies. The effect of curtailment on labor will be a factor in any final recommendation to the steel director.

The real question with manufacturers, however, is whether to operate at 100 per cent of capacity 75 per cent of the time or vice versa. President W. S. Horner says the steel sheet capacity of the country is about 3,000,000 tons annually; consequently, a 25 per cent curtailment will mean the permanent idleness during the war of capacity for producing 750,000 tons a year.

TIN PLATE.

In the New York market dealers are quoting tin plate unchanged at the basis of $9.65 per 100 pounds of Bessemer steel. Production continues well up to normal levels.

OLD METALS.

Wholesale quotations in the Chicago district, which may be considered nominal, are as follows: Old steel axles, $41.52; old iron axles, $41.52; steel springs, $30.36; Number 1 wrought iron, $30.36; Number 1 cast iron, $28.00 to $28.50, all net tons. Prices for non-ferrous metals are as follows, per pound: Light copper, 20 cents; light brass, 11¼ cents; lead, 6 cents; zinc, 5¼ cents; cast aluminum, 22 cents.

PIG IRON.

Furnaces are hardly paying any attention to the numerous inquiries for pig iron, which are still coming in. They are making no offerings at all, as tonnages now are being provided only by allocation through the War Industries Board. Steel-making grades are in greatest demand and foundry grades are a close second. A plan is said to be under consideration by the Director of Steel Supply that furnaces now making foundry iron shall change to the production of steel-making grades. But if any action is taken it will not be done until complete data shall have been compiled showing an estimate of steel-making iron that is needed.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS.

PIG IRON

Basic	$32 00
Northern Fdy., No. 2	33 00
Southern Fdy., No. 2	37 50
Lake Sup. Charcoal	37 25-37 50
Malleable	33 50

FIRST QUALITY BRIGHT TIN PLATES.

		Per Box
IC	14x20	$16 80
IX	14x20	18 70
IXX	14x20	20 80
IXXX	14x20	22 15
IXXXX	14x20	23 65
IC	20x28	33 60
IX	20x28	37 40
IXX	20x28	41 60
IXXX	20x28	44 30
IXXXX	20x28	47 30

COKE PLATES.

Cokes, 180 lbs.	20x28	$18 50
Cokes, 200 lbs.	20x28	18 80
Cokes, 214 lbs.	IC 20x28	19 40
Cokes, 270 lbs.	IX 20x28	21 75

BLUE ANNEALED SHEETS.

No. 10 per 100 lbs.	$5 52
No. 12 per 100 lbs.	5 57
No. 14 per 100 lbs.	5 62
No. 16 per 100 lbs.	5 72

ONE PASS COLD ROLLED BLACK.

No. 18-20 per 100 lbs.	$6 32
No. 22-24 per 100 lbs.	6 37
No. 26 per 100 lbs.	6 42
No. 27 per 100 lbs.	6 47
No. 28 per 100 lbs.	6 52

GALVANIZED.

No. 16 per 100 lbs.	$7 02
No. 18-20 per 100 lbs.	7 17
No. 22-24 per 100 lbs.	7 32
No. 26 per 100 lbs.	7 47
No. 27 per 100 lbs.	7 62
No. 28 per 100 lbs.	7 77
No. 30 per 100 lbs.	8 27

POLISHED SHEET STEEL.

No. 24 per 100 lbs.	$7 82
No. 26 per 100 lbs.	7 87
No. 27 per 100 lbs.	7 92
No. 28 per 100 lbs.	8 02

SMOOTH SHEET STEEL.

	Per 100 lbs.
Wood's Smooth No. 20	$7 27
" " No. 22-24	7 32
" " No. 25-26	7 37
" " No. 27	7 42
" " No. 28	7 52

PATENT PLANISHED SHEET IRON.

Patent Planished Sheet Iron, 100 lbs., base No. 28 ..... $12 75

BAR SOLDER.

Warranted, 50-50 per lb.	58 c
Commercial, 45-55 "	53½c
Plumbers' "	48½c

SPELTER.

In Slabs 9½c

SHEET ZINC.

Cask lots	$22 00
Less than Cask lots	$22 50 to $23 00

COPPER.

Copper sheet, base 36c

LEAD.

American Pig	$8 50
Bar	9 00

Sheet.

Full coils per 100 lbs.	$11 00
Cut coils per 100 lbs.	11 25

TIN.

Pig tin	Nominal
Bar tin	Nominal

HARDWARE.

ADZES.

Carpenters'.
Plumbs 15%

Coopers'.
Barton's 15%
White's 15%

Railroad.
Plumbs 20%

AMMUNITION.

Caps, Percussion—per 1,000.
F. L., Waterproof, 1-10s 32%
G. D 32%
Musket 32%

Shells, Loaded—
Loaded with Black Powder 32%
Loaded with Smokeless Powder, medium grades 32%
Loaded with Smokeless Powder, high grade 32%

Winchester:
Smokeless Repeater Grade 32%
Smokeless Leader Grade 32%
Black Powder 32%

U. M. C.
Nitro Club 32%
Arrow 32%
New Club 32%

Gun Wads—per 1000

Winchester 7-8 gauge	$2 25
" 9-10 gauge	1 94
" 11-28 gauge	1 63

Powder.	Each
DuPont's Sporting, kegs	11 25
" " ½ kegs	5 90
" " ¼ kegs	3 10
DuPont's Canisters, 1-lb	56
" " ½-lb	32
" " ¼-lb	22
" Smokeless drums	43 50
" " kegs	22 00
" " ½-kegs	11 25
" " ¼-kegs	5 75
" " canisters	1 00
L. & R. Orange, Extra Sporting kegs	11 25
L. & R. Orange, Extra Sporting ½-kegs	5 90
L. & R. Orange, Extra Sporting ¼-keg	3 10
L. & R. Orange, Extra Sporting 1 lb. canisters	56
L. & R. Orange, Extra Sporting ½-lb. canisters	32
L. & R. Orange, Extra Sporting ¼-lb. canisters	22
Hercules "E. C." and "Infallible" 50 can drums	43 50
Hercules "E. C." kegs	22 00
Hercules "E. C." ½-kegs	11 25
Hercules "Infallible," 25 can drums	22 00
Hercules "Infallible," 10 can drums	9 00
Hercules "E.C." ¼-kegs	5 75
Hercules "E.C." and "Infallible" canisters	1 00
Hercules W. A. .30 Cal. Rifle, canisters	1 25
Hercules Lightning Rifle, canisters	1 25
Hercules Sharpshooter Rifle, canisters	1 25
Hercules Unique Rifle, canisters	1 50
Hercules Bullseye Revolver, canisters	1 00

ANVILS.

Trenton, 70 to 80 lbs.	9½c per lb.
Trenton, 81 to 150 lbs.	9½c per lb.

ASBESTOS.

Board and Paper, up to ⅛"	17c per lb.
Thicker	18c per lb.

AUGERS.

Boring Machine 60%
Irwin's ..... Nets
Carpenter's Nut ..... 50&10%

Hollow.

Bonney's per doz.	$30 00
Stearns, No. 3 " "	60 00

Post Hole.

Digwell, 8-inch per doz.	$12 50
Iwan's Post Hole and Well	Nets.
Vaughan's, 4 to 9-in. per doz.	10 25

Ship.

Ford's, with or without screw	15%
Snell's " " "	15%

AWLS.

Brad.

No. 3 Handled per doz.	$0 50
No. 1050 Handled "	1 05
Shouldered, assorted 1 to 4, per gro.	4 00
Patent asst'd, 1 to 4 "	85

Harness.

Common "	1 05
Patent "	1 00

Peg.

Shouldered "	1 60
Patent "	75

Scratch.

No. 1 handled per doz.	65
No. IS, socket han'ld. "	1 35
No. 7 Stanley "	1 95

AXES.

Boys' Handled.
Niagara " 9 25

Broad.

Plumbs, West, Pat	List
" Can. Pat	$53 00
" Firemen's (handled), per doz.	$19 00

Single Bitted (handled).

Warren Silver Steel	15 50
Warren Blue Finished	15 00
Matchless Red Pole	14 00

Single Bitted (without handles).

Warren Silver Steel	13 50
Warren Blue Finished	12 50
Matchless Red Pole	11 50

Double Bitted (without handles).
Warren's Natl. Blue, 3½ to 4½ lb. ..... per doz. 17 50
The above prices on axes of 3 to 4 lbs. are the base prices.
3½ to 4½ lbs. advance 25c.
4 to 5 lbs. advance 50c.
4½ to 5½ lbs. advance 75c.

BAGS, PAPER NAIL.

Pounds	10	16	20	25
Per 1,000	$5 00	6 50	7 50	9 00

BALANCES, SPRING.

Pelouze 20%

BARS, CROW.

Pinch or Wedge Point, per cwt. $8 00

BASKETS.

Clothes.

Small Willow per doz.	10 00
Medium " "	11 50
Large " "	13 50

Galvanized Steel.	½ bu.	1 bu.	1½ bu
Per doz.	$8 00	$11 50	15 00

BEATERS.

Carpet.	Per doz.
No. 17 Tinned Spring Wire	$ 1 10
No. 18 Spring Wire coppered	1 40
No. 10 Preston	1 10

Egg.	Per doz.
No. 50 Imp. Dover	$ 1 10
No. 102 " " tinned	1 35
No. 150 " " hotel	2 10
No. 10 Heavy hotel tinned	2 10
No. 13 " " "	3 30
No. 15 " " "	3 60
No. 18 " " "	4 50

BELLOWS.

Blacksmiths' 40%

Hand.

	8	9	10	12
Per doz.	$8 00	9 00	10 00	12 75

Moulders'.
12-inch ..... Per doz. 15 00

BELLS.

Call.
3-inch Nickeled Rotary Bell, Bronzed base ..... per doz. $5 00

Cow.

High Grade	60%
Kentucky	35%

Door.	Per doz.
New Departure Automatic Rotary.	$7 50
3 -in. Old Copper Bell	5 00
3 -in. Old Copper Bell, fancy	7 00
3 -in. Nickeled Steel Bell	5 50
3½-in. Nickeled Steel Bell	6 00

Hand.

Hand Bells, polished	15%
White Metal	15%
Nickel Plated	10%
Swiss	15%
Silver Chime	10%

Miscellaneous.
Church and School, steel alloys 30%

Farm, lbs.	40	50	75	100
Each	$2 25	3 00	4 00	5 50

BEVELS, TEE

Stanley's, rosewood handle, new list ..... Nets
Stanley's iron handle ..... Nets

BINDING, OILCLOTH.

Zinced	60%
Brass	40&10%
Brass, plated	60&10%

BITS.

Auger.

Jenning's Pattern	50%
Ford's Car and Machine	15%
Ford's Ship	30%
Irwin	35%
Russell Jenning's	30%
Clark's Expansive	50&5%
Steer's " Small list, $22 00	25%
" " Large " $26 00	25%
Irwin Car	35&10%
Ford's Ship Auger pattern Car	15%

Center 10%

Countersink.

No. 18 Wheeler's	per doz.	$1 80
No. 20 "	"	2 40
American Snailhead	"	1 10
" Rose "	"	1 30
" Flat	"	1 20
Mahew's Flat	"	1 00
" Snail	"	1 50

Dowell.
Russell Jennings 30%

Gimlet.

Standard Double Cut		25%
German Pattern	per doz.	$0 75
German	"	80
Gouge	"	80
Spoon	"	15%
Countersink	"	1 30

Reamer.

Jenning's Square	"	2 50
Standard Square	"	2 00
American Octagon	"	1 75

Screw Driver.

No. 7 Common	"	75
No. 1 Triumph	"	1 25